No. 338

UNITED STATES COURT OF APPEALS

FOR THE THIRD CIRCUIT

No. 12,034

U. S. CHEMICAL CORPORATION and
U. S. PLASTIC PRODUCTS CORPORATION,

Appellants

vs.

PLASTIC GLASS CORPORATION,

Appellee.

Appeal from a Judgment of the United States District Court for the District of New Jersey.
(Civil Action No. 193-54)

APPENDIX for APPELLANTS

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For Plaintiff:

Name	Direct	Cross	Redirect	Recross
Frank E. Porter	20a	36a		

Transcript of Testimony	50a

For Defendant:

Name	Direct	Cross	Redirect	Recross
Samuel Brass	50a			
Frank E. Porter	67a	135a	136a	

For Plaintiff:

Leo Wagner	137a
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RELEVANT DOCKET ENTRIES

3-18-54	Complaint filed 3-17-54
2-1-55	Amended Answer and Counterclaims, filed 1-31-55.
2-9-55	Reply to Counterclaims filed 2-8-55
6-6-55	Trial Stipulation filed 6-3-55
6-6-55	Trial without Jury before Hon. Thomas F. Meaney. (6-2-55) Trial adjourned to 6-3-55
6-6-55	Trial continued. (6-3-55)
6-21-56	Findings of Fact and Conclusions of Law, filed 6-20-56
7-2-56	Judgment of dismissal, with costs, in favor of the defendant, Plastic Glass Corporation, and against the plaintiffs, U. S. Chemical Corporation and U. S. Plastic Products Corporation, filed (Smith). Notice mailed.
7-16-56	Notice of Appeal, filed 7-13-56

COMPLAINT

1. This is an action for patent infringement under U. S. C. Title 35, Section 281, as hereinafter more fully appears.

The jurisdiction of this Court is founded on the provisions of U. S. C. Title 28, Section 1338 (a) and U. S. C. Title 28, Section 1400 (b).

2. The plaintiff, U. S. Chemical Corporation, is a corporation of New Jersey with its principal office at Metuchen, New Jersey.

3. The defendant, Plastic Glass Corporation, is a corporation with a regular and established place of business at 33 Avenue P, Newark, New Jersey, at which place the acts of infringement herein complained of were committed.

On information and belief the defendant is a corporation of New Jersey.

4. On February 9, 1954 U. S. Letters Patent No. 2,668,328 were duly and legally issued to plaintiff for improvements in Method of Casting Patterned Plastic Sheets and since that date plaintiff has been and still is the owner of those Letters Patent.

5. Defendant has subsequent to the issuance of said Letters Patent and within the six years immediately preceding the filing of this complaint infringed said Letters Patent No. 2,668,328 by manufacturing patterned plastic sheets at its said plant at Newark, New Jersey, in accordance with the method described and claimed in said Letters Patent, and by selling such sheets, and defendant is now so infringing said Letters Patent and will continue to do so unless enjoined by this Court.

WHEREFORE, plaintiff demands a preliminary and final injunction against further infringement by defendant and those

controlled by defendant, an accounting for damages and an assessment of costs and reasonable attorneys' fees against defendant.

/s/ Stanton T. Lawrence, Jr.
STANTON T. LAWRENCE, JR.
Attorney for Plaintiff
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Rutherford, New Jersey

Of Counsel:

/s/ W. Brown Morton
W. BROWN MORTON
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AMENDED ANSWER AND COUNTERCLAIMS

Defendant, Plastic Glass Corporation, in answer to the complaint herein alleges:

1. Defendant admits the allegations of paragraph 1 of the complaint.

2. Defendant is without knowledge or information sufficient to form a belief as to the truth of the allegations contained in paragraph 2 of said complaint.

3. Defendant admits that it is a corporation organized and existing under the laws of the State of New Jersey, and that it has a regular and established place of business at 33 Avenue P in Newark, New Jersey, but defendant otherwise denies the allegations of paragraph 3 of the complaint.

4. Defendant admits that on February 9, 1954, United States Letters Patent No. 2,668,328 was issued to plaintiff, but defendant denies that said Letters Patent was duly or legally issued to said

plaintiff, and defendant is without information sufficient to form a belief as to the other allegations contained in paragraph 4 of the complaint.

5. Defendant denies the allegations contained in paragraph 5 of the complaint.

Further answering, said defendant alleges that:

6. Said Letters Patent No. 2,668,328 is invalid and void because Frank E. Porter was not the original and first inventor of the alleged invention described and claimed therein, but the same, in all of its material and substantial parts, was invented, known to and used by others before the alleged invention or discovery thereof, was patented and described in printed publications in this and foreign countries before his alleged invention or discovery thereof, and more than one year prior to his date of application for patent thereon, and was in public use and on sale in this country more than one year prior to said date of application.

7. The patents and printed publications referred to in paragraph 6 in so far as they have at present been ascertained, are as follows:

Patents

Number	Name	Date
2,168,331	Fields et al	8/8/39
2,265,226	Clewell et al	12/9/41
2,480,749	Marks	8/30/49
2,480,750	Leary	8/30/49
2,353,995	Conner	7/18/44
2,480,752	Rogers	8/30/49
2,054,454	Thies et al	9/15/36
2,154,438	Conklin	4/18/39

2,648,098	McElligott	8/11/53 (Applic. filed 10/4/49)
2,294,170	Francis et al.	8/25/42
2,347,320	Hiltner	4/25/44
963,973	Wright	7/12/10
2,529,108	Shapiro	11/7/50

together with other patents and printed publications which when ascertained, defendant prays leave to add hereto by amendment.

8. The instances of prior invention, prior knowledge and use by others and prior public use and sale above referred to in paragraph 6, in so far as they have at present been ascertained, are as follows:

(a) By the patentees of the patents set forth above, at the places set forth in the patents and elsewhere in the United States.

9. Any differences between the subject matter of said Letters Patent and the prior art are such that the subject-matter as a whole would have been obvious at the time the alleged invention was made to a person having ordinary skill in the art to which said subject-matter pertains.

10. The specification of said Letters Patent does not contain a written description of said invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which is most nearly connected, to make and use the same

11. The claims of said Letters Patent fail to point out and distinctly claim said invention.

12. Said Letters Patent fails to disclose and claim an inoperative invention.

13 Said Letters Patent No. 2,668,328 is unenforceable against this defendant because of the following facts

(a) The defendant manufactures and sells plastic sheeting to ultimate consumers and to fabricators of other articles of manufacture

(b) No claim to plastic sheeting or to any product has even been asserted in the prosecution of Application Serial No 347,555 for said Letters Patent, and said Letters Patent do not contain a claim covering a product of any kind

(c) Plaintiff nevertheless has willfully and deliberately circulated by word of mouth and otherwise to the trade and particularly to the customers and potential customers of defendant that plaintiff would take legal action against said customers and potential customers of defendant if they purchased any plastic sheeting from the defendant, regardless of the process by which it had been made, said threats and statements having been made by plaintiff both prior to and after the issuance of said Letters Patent, well knowing that it has not had and does not now have a cause of action for patent infringement against customers of the defendant.

(d) Many customers and potential customers of defendant have been intimidated by said threats and statements of plaintiff and have therefore refrained from the purchase of plastic sheeting from the defendant.

(e) Defendant has thereby been damaged and is continuing to be damaged by being deprived of business and customers it would otherwise have had but for the willful and deliberately unfair acts of this plaintiff in threatening

to use said Letters Patent against the customers and potential customers of defendant.

FIRST COUNTERCLAIM

Further answering and by way of a First Counterclaim, the defendant, Plastic Glass Corporation respectfully alleges:

14. That the defendant Plastic Glass Corporation, is a corporation of the state of New Jersey having a regular and established place of business at 33 Avenue P Newark New Jersey.

15. That the plaintiff, U S Chemical Corporation, is a corporation of the state of New Jersey with its principal place of business at Metuchen, New Jersey That U S Plastic Products Corporation is a corporation of the state of New Jersey with its principal place of business at Metuchen New Jersey and is the exclusive licensee under U. S. Letters Patent No 2 668 328

16. That this Court has jurisdiction over the subject-matter of the First Counterclaim by virtue of the fact that said counterclaim seeks a declaratory judgment under 28 U S C., Sections 2201 and 2202, in respect to matters arising under the Patent Laws of the United States

17. That actual controversy exists between plaintiff and U.S. Plastic Products Corporation and defendant as to the alleged infringement by defendant * * * of United States letters Patent No. 2,668,328, granted to plaintiff on the application of Frank E. Porter for "Method of Casting Patterned Plastic Sheets", and as to the validity of said patent

18. Defendant is a manufacturer of plastic sheeting, including such sheeting having a pattern therein. Defendant has for a considerable period of time sold said sheeting to fabricators and

manufacturers of other articles of manufacture for use of said sheeting therein.

19. On information and belief, plaintiff and U. S. Plastic Products Corporation have repeatedly charged and stated to the trade, including defendant's customers, that the inventions purported to be covered by said Patent No. 2,668,328 are embodied in the defendant's said patterned plastic sheeting and that said patent is infringed by the manufacture, use and sale of the said patterned plastic sheeting, and plaintiff has sued defendant and is threatening suit against defendant's customers for such alleged infringement. Defendant denies and has denied that it or its customers are violating or will violate any rights under said patent and asserts that it is entitled to continue to manufacture, use and sell the said patterned plastic sheeting and its customers are entitled to use and sell the same without interference by the plaintiff and U. S. Plastic Products Corporation.

20. Defendant here repeats and incorporates by reference each and all the allegations of paragraphs 6 to 12 inclusive, above.

21. Said Letters Patent No. 2,668,328 is unenforceable against this defendant because of the following facts.

(a) The defendant manufactures and sells plastic sheeting to ultimate consumers and to fabricators of other articles of manufacture.

(b) No claim to plastic sheeting or to any product has ever been asserted in the prosecution of Application Serial No. 347,555 for said Letters Patent, and said Letters Patent do not contain a claim covering a product of any kind.

(c) Plaintiff and U. S. Plastic Products Corporation nevertheless have willfully and deliberately circulated by

word of mouth and otherwise to the trade and particularly to the customers and potential customers of defendant, that plaintiff and U S Plastic Products Corporation would take legal action against said customers and potential customers of defendant if they purchased any plastic sheeting from the defendant regardless of the process by which it had been made, said threats and statements having been made by plaintiff and U S Plastic Products Corporation both prior to and after the issuance of said Letters Patent well knowing that they did not have and do not now have a cause of action for patent infringement against customers of the defendant

(d) Many customers and potential customers of defendant have been intimidated by said threats and statements of plaintiff and U S Plastic Products Corporation and have therefore refrained from the purchase of plastic sheeting from the defendant

(e) Defendant has thereby been damaged and is continuing to be damaged by being deprived of business and customers it would otherwise have had but for the willful and deliberately unfair acts of this plaintiff and U S Plastic Products Corporation in threatening to use said Letters Patent against the customers and potential customers of defendant

SECOND COUNTERCLAIM

Further answering and by way of a Second Counterclaim the defendant Plastic Glass Corporation respectfully alleges

22 Defendant here repeats and incorporates by reference

each and all of the allegations of paragraphs 14 and 15 above

23 The jurisdiction of the Court in regard to the Second Counterclaim is based on 28 U S C Section 1338(b); and the fact that the plaintiff in this action has by filing this suit subjected itself to the jurisdiction of this Court

24 That defendant's principal business is the manufacture or fabrication of plastic sheeting which said sheeting is sold by defendant primarily to manufacturers of other products in which said sheeting is used

25 That U S Letters Patent No 2,668,328 was issued to plaintiff on February 9 1953 on an application filed on April 8, 1953; that the claims of said application as originally filed were limited to process claims and the claims as amended during the course of prosecution and as finally issued were and are limited to process claims in that said claims if valid covered and cover only methods of making plastic sheeting and not plastic sheeting as an article of manufacture

26 That plaintiff and U S Plastic Products Corporation well knowing the limited scope and nature of the claims asserted in said application for said Letters Patent and in said Letters Patent have communicated with the customers and potential customers of the defendant in an effort to cause them to discontinue or refrain from purchasing plastic sheeting made by said defendant

27 That plaintiff and U S Plastic Products Corporation in said communications to defendant's customers and potential customers threatened to bring action for patent infringement against said customers of defendant if they purchased or continued to purchase said plastic sheeting made by defendant, and said customers and potential customers of defendant have in fact been coerced and intimidated by

said threats of plaintiff and U S Plastic Products Corporation and have discontinued and refrained from purchasing such plastic sheeting from defendant to defendant's great damage

28. That plaintiff and U S Plastic Products Corporation, well knowing that they did not have or claim any exclusive patent rights in and to the use of plastic sheeting material have willfully and maliciously stated and published by word of mouth and otherwise, to persons engaged in the plastic sheeting and fabrication industries and to distributors, customers and potential customers of defendant, that plaintiff and U S Plastic Products Corporation would take legal action against any party purchasing or using plastic sheeting made by defendant, said course of action of plaintiff and U S Plastic Products Corporation being deliberately calculated to destroy defendant's competitive position in the plastic sheeting manufacture field and to deprive defendant of customers and business for said plastic sheeting which otherwise would have accrued to defendant but for said unfair conduct

29 Plaintiff and U S Plastic Products Corporation threaten to continue their acts of unfair competition herein alleged unless enjoined by an order of this Court

WHEREFORE DEFENDANT PRAYS

1 That the Court order U S Plastic Products Corporation to be made a party defendant to respond to these counterclaims.

2 That plaintiff's complaint be dismissed

3 That this Court declare and adjudge that said U S Letters Patent No 2 668.328 is invalid and unenforceable, and that defendant has not infringed the same

4 For a permanent injunction and a preliminary injunction pending this suit restraining and enjoining plaintiff and U S Plastic Products Corporation their attorneys, agents, servants

workmen and employees and all others acting by or under their direction from making or publishing any statement or threat of patent infringement litigation or claiming that any act of defendant infringes said patent.

5. For an accounting of profits lost to defendant and damages sustained by defendant by reason of the unfair and unlawful actions of plaintiff and U. S. Plastic Products Corporation.

6. For costs in this suit together with reasonable attorney's fees.

7. For such other, further and different relief as the circumstances of the case may require.

KLEIN & KLEIN

By _____
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REPLY TO COUNTERCLAIMS

Plaintiff, U. S. Chemical Corporation, and U. S. Plastic Products Corporation, replying to the counterclaims contained in defendant's Amended Answer herein allege.

1. Plaintiff and U. S. Plastic Products Corporation deny the allegations in the First Counterclaim except they admit the allegations contained in Paragraphs 14, 15, 16 and 18 thereof and that part of Paragraph 17 that alleges "That actual controversy exists between plaintiff and U. S. Plastic Products Corporation and defendant as to the alleged infringement by defendant * * * of United States Letters Patent No. 2,668,328, granted to plaintiff on the application of Frank E. Porter for 'Method of Casting Patterned Plastic Sheets', and as to the validity of said patent."

2. Plaintiff and U. S. Plastic Products Corporation deny the allegations of the Second Counterclaim except they admit the allegations contained in Paragraphs 22, 23, 24 and 25 thereof.

WHEREFORE, plaintiff U. S. Chemical Corporation and U. S. Plastic Products Corporation pray that defendant's Counterclaims be dismissed with costs.

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TRIAL STIPULATION

It is hereby stipulated and agreed by and between counsel for the respective parties hereto as follows:

A.

Agreed Statement of the Case

This civil action, originally commenced March 18, 1954 by U. S. Chemical Corporation as sole plaintiff, is for infringement of Letters Patent No. 2,668,328 granted February 9, 1954 to plaintiff U. S. Chemical Corporation for "Method of Casting Patterned Plastic Sheets" on an application filed April 8, 1953 by Frank E. Porter. Defendant, denying validity, infringement and enforceability of the patent against it, interposed two counterclaims against the original plaintiff, (a) one alleging controversy between the parties sought a declaration adjudging that the Porter patent is invalid and unenforceable against this defendant and that defendant has not infringed the same; and (b) the other sought an injunction and accounting for unfair competition.

Following discovery proceedings, in the course of which it appeared inter alia that U. S. Plastic Products Corporation (not at that time a party) claimed an equitable interest in the Porter patent No. 2,668,328, defendant by leave of Court amended its answer and counterclaims so as to add U. S. Plastic Products Corporation as a party defendant to each of the counterclaims previously asserted against the original plaintiff.

Subject to the approval of the Court, it is agreed that the pleadings are re-cast so that U. S. Chemical Corporation as the owner of the patent in suit and U. S. Plastic Products Corporation as the exclusive licensee will be designated as co-plaintiffs jointly asserting

the claim for infringement of the patent, and the counterclaims for patent declaration and for unfair competition will be asserted by defendant against the said plaintiffs jointly and severally.

U. S. Chemical Corporation and U. S. Plastic Products Corporation have each denied the allegations of unfair competition made against them.

The Court's jurisdiction upon plaintiffs' claim for patent infringement is based upon the provisions of 28 U. S. C. §1338(a).

The Court's jurisdiction with respect to the counterclaim for declaratory judgment is based upon the provisions of 28 U. S. C. §2201.

The Court's jurisdiction in regard to the counterclaim for unfair competition is based upon the provisions of 28 U. S. C. §1338(b).

The issues are:

(a) whether defendant's process infringes the Porter patent;

(b) whether the Porter patent is valid;

(c) whether plaintiffs' conduct prior to patent issuance bars relief;

(d) whether plaintiffs' conduct constitutes unfair competition warranting relief on the counterclaims.

B.

Agreements Upon Formal Matters

1. Plaintiff relies upon claims 1, 3 and 4 of the Porter patent and no other claims, in support of its allegations of infringement. Defendant seeks a declaration with respect to these claims, and also with respect to claims 2 and 5.

2. It is admitted that plaintiff U. S. Chemical Corporation is the owner of the entire right, title and interest in and to the legal

title of the Porter patent in suit.

3. It is admitted that plaintiff U. S. Plastic Products Corporation is the owner of an equitable interest in the Porter patent in suit.

4. Neither party will object to the introduction in evidence of soft or photostat copies of the patent in suit, of any patent pleaded in defendant's answer, of any document the genuineness of which has been admitted under Rule 36, or of documents formally or informally produced by either party at the request of the other party, on the ground that such copy is not duly authenticated or is not the best evidence, subject to correction for error if error appears.

5. Each party waives any objection based upon error or irregularity of the kind mentioned in paragraphs (a), (b), (c) (2), and (d) of Rule 32 of the Federal Rules of Civil Procedure occurring in connection with, and agrees to produce at the trial all exhibits retained in counsel's possession which were marked at the depositions as follows:

of Larry Wagner and
George De Marco,
taken on or about
July 20, 1954 at Newark, N. J.

of Samuel Brass and
Frank E. Porter,
taken on or about
November 30, 1954 at Newark, N. J.

of Richard E. Leary,
taken on or about March 4, 1955,
at Boston, Mass.

of Frank E. Porter,
taken on or about March 17, 1955,
at Newark, N. J.

6. Each party will, on reasonable notice to its counsel, produce at the trial (to be called as a witness on behalf of the party requesting that the person be produced) any of the following designated

persons:

To be produced by the Plaintiffs

Samuel Brass
Frank E. Porter,
Jack Aleshnick,
August Weiner;

To be produced by the Defendant

Larry Wagner
George De Marco,

subject to such action as the Court may take to relieve either party from the foregoing requirements on a showing of illness, accident, necessary absence, or other ground rendering it impossible or impracticable to produce the person designated.

7. That plaintiffs will produce at the trial each of the following documents or things

(a) Records of each and every sale of design pearl sheeting by plaintiff and/or U. S. Plastic Products Corporation to each of the following concerns during the stated periods, including original invoices, memoranda and shipping orders relating thereto and bookkeeping records relating thereto and including the original documents photostatic copies of which have been marked as defendant's exhibits 36a, 36b, 37a, 37b, 37c, 38, 39 and 40 for identification on the deposition of Frank E. Porter taken on March 17 and 18, 1955 in the above proceeding, all of which documents were produced by plaintiff on January 28, 1955 for inspection by defendant

(1) Hand Bag Specialty Co.
117 36th Street
Union, New Jersey

(2) Jewel Plastic Co.
254 Canal Street
New York, N. Y.
February 19, 1952 to April 8, 1953,

(3) Rialto Button & Wood Products
583 Broadway

New York, N. Y.
February 12, 1952 to April 8, 1953

(4) Associated Plastic Co.
55 West 16th Street
New York, N. Y.

(b) The one volume notebook on the first page of which appears the words "Prop. National Solvents Co. F. E. P.", containing numbered pages running up to 152, which notebook was produced by plaintiff on January 28, 1955 for inspection by defendant, and which notebook was identified by Frank E. Porter on his deposition taken March 17 and 18, 1955.

(c) Each and every handbag in the possession of the plaintiff or U. S. Plastic Products Corporation which was manufactured prior to April 8, 1953 by the following named concerns and which contains design-pearl sheeting which plaintiff claims was made by plaintiff or U. S. Plastic Products Corporation in accordance with the process of the patent in suit.

(1) Hand Bag Specialty Co.
117 36th St.
Union, N. J.

(2) Jewel Plastic Co.
254 Canal Street
New York, N. Y.

(3) Rialto Button & Wood Products
583 Broadway.
New York, N. Y.

(4) Associated Plastic Co.
55 West 16th Street
New York, N. Y.

including the two handbags which were produced by plaintiff on January 28, 1955 for inspection by defendant.

8. Defendant will produce at the trial:

(a) Defendant's Production Book referred to at page 8 of the De Marco deposition covering the period commencing February

9, 1954 to date

(b) The photostated copy of agreement dated March 21, 1949 between U S Chemical Corporation and U S Plastic Products Corporation which was furnished defendant on January 28, 1955

9 Plaintiffs will not object to the introduction by defendant of evidence offered to establish that the process of the Porter patent was in public use or on sale by plaintiff U S Plastic Products Corporation at Metuchen New Jersey more than one year prior to the date of the application for said Porter patent upon the basis of lack of notice under 35 U S C §282

10 Plaintiffs consent that the defense which was set forth in defendant's amended answer as "12 Said Letters Patent fails to disclose and claim an inoperative invention " shall be deemed and taken to be amended nunc pro tunc to read as follows "12 Said Letters Patent is invalid because it purports to cover a process which is neither new nor useful and which is inoperative "

C

Trial Memoranda for the Court

Each party may, before the trial begins, submit to His Honor Judge Meaney a Trial Memorandum stating its contentions, facts expected to be proved, and cases and authorities relied on.

The parties agree to exchange copies of their respective above-mentioned trial memoranda in the courtroom at the time when the case is called for trial

Pennie Edmonds Morton Barrows & Taylor
By /s/ Stanton T Lawrence, Jr
Of Counsel for Plaintiffs

Kenyon & Kenyon
By /s/ Francis T Carr
Of Counsel for Defendant

[Excerpts from proceedings before Hon Thomas F Meaney U S D J Newark N J June 2 et seq , 1955]

[Page 14, lines 7 and 8]

F R A N K E P O R T E R called and sworn on behalf of the plaintiff, testified as follows

. . . .

[Page 16, line 1]

DIRECT EXAMINATION BY MR LAWRENCE

. . .

[Page 60 line 3 page 77, line 19]

Q Now, Mr Porter, suppose I hand you your laboratory notebook which I think will assist you these dates

Now can you find the entry in your notebook when you made the first sheet? A Yes sir the first sheet was produced on September

THE COURT This is the first sheet of a pattern?

THE WITNESS Of the pattern material full size sheet it was produced September 27 1951 This was produced in gold because at that time the handbag manufacturers large volume of business was the shell type bag the imitation tortoise shell, and the nearest that we had as a standard color was gold This is one of the original bags from the original sheet that we took from aging and control tests after it was produced.

Q You are referring — A To the one you have in your hand, sir

Q To this bag, Mr Porter? A That is correct

MR LAWRENCE I offer this in evidence as Exhibit P-7

MR KENYON Have I seen that?

MR LAWRENCE Yes, sir that is one that we produced

THE COURT If I understand you correctly, this was

[61] the first colored?

THE WITNESS That is the first sheet, the first full sized sheet was that colored sheet

THE COURT Well, you had already tried the pattern with the pearl?

THE WITNESS Yes, sir, laboratory-wise

THE COURT Laboratory-wise?

THE WITNESS But not full size

THE COURT But not full size

THE WITNESS This was the first full production size sheet

THE COURT That was produced exactly as the laboratory sheet was produced except that there was a gold color added?

THE WITNESS That is correct, sir

THE COURT Any objection?

MR KENYON No objection

(Received and marked Exhibit P-7)

Q Now, what did you do, Mr Porter, after the initial sheet was made, so far as the development of the process was concerned?

A Well, we continued experimenting with it, with the white

material We still didn't know whether we had a product that was going to be of interest to the market Hand Bag, who we used, if I may say, strictly as the guinea pig on this [62] material, then requested additional sheet and we produced them We found from the original bag which was produced in 125 caliper thickness, that the methacrylate was not comparable to the acetate that they were using, the bag didn't have sufficient rigidity, for one of the things

So on November 30 we produced for Hand Bag two 150s, 150 caliper, in other words 125 thousandths thicker than the original sample And we tested these

In the meantime we started --

THE COURT Were these still the gold?

THE WITNESS No, this time it was in smoke -- no, I am sorry, these were gold, the second one was gold The third run was so-called smoke black

We started experimenting --

MR KENYON Excuse me, sir We haven't had that third run identified by date

BY MR LAWRENCE

Q Mr. Porter, you also might identify it by the page reference in your notebook A The second one is --

THE COURT November 30

A -- is on page 50

THE COURT That is November 30, 1951?

THE WITNESS That is correct

THE COURT: Now, then, the third one, you say, was [63] smoke?

THE WITNESS: That is right, sir

THE COURT: When was that?

THE WITNESS: The third recorded one was on January 25

THE COURT: That is '52?

THE WITNESS: That is '52, 1952, Page 57

THE COURT: Now, were those patterns made by the introduction of the compatible methyl methacrylate beads?

THE WITNESS: Yes, sir, they were

THE COURT: And were they produced by the suspension—

THE WITNESS: All of these sheets are produced by the same procedure

THE COURT: That you described

THE WITNESS: Yes, sir The variables involved, as I will go into as we go along here, the development concerned, was the fact that we had to match the pattern from one dimensional thickness sheet to another, from 125 through 250, and the fact that we had to then adjust the bali size and amount to the viscosity at which this material poured

Now, this sheet on the 25th of January was a 250 design pearl and at this time we were working with the—trying to adjust the pattern by adjusting the size of the balls, the beads themselves This particular run was made with the material that went past the six but would not go through a [64] ten

screen?

THE COURT: You are speaking of this, the January one?

THE WITNESS: Yes. This is the 250 thickness, the quarter inch thick.

Q Now, Mr Porter, these experimental runs that you are referring to in your notebook, were they experimental runs for the purpose of working out production controls? A These things were all done because they were requested by the customer. Starting in this, we had no knowledge of how to do it and they were strictly experimental runs. The procedure being to make a test sheet and then to make the experimental run following the test sheet if it looked as if it would be acceptable to the customer.

Q What further experimental runs did you make? A We continued then with the adjustment of the viscosity to the number of beads that we put into each particular material.

Q You mean the unit weight of syrup into which you were going to put the powder? A That's right, the viscosity of the unit weight of the syrup against a given volume of powder.

THE COURT: A given volume of powder

THE WITNESS: That's right, being the beaded stock. In other words, we would make variations in the grams per pound [65] that we added.

THE COURT: That you added to what?

THE WITNESS: That we added to the syrup, to see what would happen to the pattern itself by variations in balls

THE COURT When you say "the powder" I am confused

THE WITNESS Well, the powder is methyl methacrylate balls.

THE COURT Oh, they are the balls

THE WITNESS They are the balls

THE COURT. You see, the use of the term powder made me think of just fine powder, instead of balls.

THE WITNESS I shall try to remember to call them balls sir, so it will not be confusing

THE COURT If you will, please because the difference to you is quite different than to me

THE WITNESS On March 28, Page 63 of the notebook, we were attempting to produce fine design in 100 and 125 material where we were using five grams of material - there was ten grams of balls through 20 mesh for the 100 and twelve grams for the 125

Q Now, Mr. Porter, is that the first time you tried to sieve the balls? A No, it is the second time, because when we started to make the 250s, to attempt to make the 250s, we found that by [66] using the balls as they were produced, as we had normally been doing -

THE COURT That would be a standard size?

THE WITNESS That is right, that would be all the sizes under the sun, even fine That material would cause a run to the pattern, instead of giving us a definite background to it. In

other words, they would almost overlap by flowing into one another

Q Now referring to your notebook, when did you realize the significance of particle size? A Well, that wasn't until quite some time later, until the proof of that actually was established

On May 12, 1952 producing the same type of material, 100 Number one group has 15 grams per pound of balls, just as they were produced with no selection whatsoever, number two contained 15 grams of the balls that had passed through a 20 mesh; and the third group we gave an excess of 20 grams through 20 mesh. All conditions were equal the amount of pearl and the casting procedures were identical on all three sets

The results were as follows the regular balls hold, that is the unsieved material unselected, over too many large particles, resulting in clear spots in the finished sheet

(67) Groups two and three, the material was okay and the design was very good The viscosity on that was slightly heavy, it was z2, which gave us the actual proof that we had to have, that we had to select our balls and use a definite size in order to maintain an adequate control to give us a pattern that we knew we could reproduce from time to time

Q Now referring to your notebook Mr Porter when did you realize the significance of that? A Actually after this test

Q Which actually was? A May 12, 1952

Q Now, were you having any other difficulties with this

process about that time? A Yes, sir

Q What other difficulty? A The customer accepted the material we produced by methods two and three and we attempted to produce it then commercially

On June 5, 1952, Page 75 in the notebook, as two runs in a row bubbled completely as scrap for no apparent reason, the following tests were made, using a special type of 100 syrup that was on production, Gerson syrup; additional pearl and synthetic was added for two-one hundredths of a Schner-Block type material Balls Number 1 were sifted through a 20 mesh; the balls for the second were sifted through the 20 and dried in the oven for eight hours The results proved [68] that excessive moisture retained by the balls causes bubbles and an excess of balls was the greatest contributing factor to poor production runs

Q What was the date of that? A That is June 5, 1952

Q Now, were you having poor production runs at that time? A We most certainly were Actually, our loss was terrific We had produced -- these figures probably would have to be verified later, but we produced somewhere around eleven thousand pounds of the material up to the date around here and over three thousand pounds of it was scrap, and held as such

Q Now, what were the defects in the sheeting which you produced at that time? A Two things, or three things, rather bubbles for one, which are just clear holes in the sheets -

Q Now I show you a piece of sheeting and ask you if that

sheeting contains bubbles? A Yes, sir, it does

Q What is the cause of such bubbles? A Well, we established that excess of balls will do it and excessive heat will do it.

THE COURT How about moisture?

THE WITNESS Moisture will cause bubbles, but not of this nature If it is an excessive moisture they have a [69] tendency to be white, to have a small volume of polymer on the inside of the bubble itself.

MR LAWRENCE I offer this in evidence as plaintiff's exhibit

THE COURT Let's find out when it was made.

Q Do you have any idea when that was made, Mr Porter? A I can't tell you that, sir All I can tell you is that it came out of the warehouse, out of the stock material in storage.

THE COURT Well, it must have been made previous to some date when you were using—

THE WITNESS I can definitely say it was previous to January 1, 1953.

MR LAWRENCE I offer that merely as an example, your Honor, of bubbles in a sheet.

MR KENYON I object to the relevancy on the issue that we are now concerned with, which is the fact of experimentation before the critical date

THE COURT I will allow it

MR KENYON I object to the introduction of something

which is not definitely identified as having come from that period

THE COURT I will allow it

(Received and marked Exhibit P-8)

Q Now, were you having any other difficulties with [70] the process at the time, other than bubbles? A Yes, the second condition is a condition of edge voiding where the material would shrink too rapidly away from the gasket in an uneven shrinkage and allow the water to enter through the intricacies of the folded cello phane covering the gasket, early enough in the cycle while the material was in a liquid polymer form so that it would actually precipitate a white precipitate on the surface and cause what we call voids on the sheet, itself, which are actually dimensional differences visible to feel.

THE COURT Well, does that have anything to do with the pattern form, or is that a mechanical difficulty that resulted from improper handling?

THE WITNESS Lack of knowledge, not improper handling

THE COURT What?

THE WITNESS From lack of knowledge, not improper handling

THE COURT I mean it had nothing to do with the pattern?

THE WITNESS No, except that it produced a large volume of scrap because we didn't know hot to control this particular thing

THE COURT You didn't know how to control what?

THE WITNESS The voiding in this particular thing, [71] in this particular type of sheet One thing developed - let me see if I can explain that for you We had found that when we pour on the table in a 45 degree position, when we poured the liquid containing the ball polymer into the cell and then the cell is leveled, it is still in the same position, the balls have a tendency to drop to that side of the sheet in greater number than on the top surface

They also have a tendency when they start to fall to form a drag line on the glass and if that drag line starts too closely to the edge or is too intense you will get a breakaway, which we call, for a better name, a crow foot void. If that occurs early enough in the polymerization process it will create a condition similar to this where it lets the water come in

THE COURT Is that caused by the ball, itself?

THE WITNESS It is exaggerated by the balls You will get a similar condition on sphere on occasions, if your gasket is too stiff

THE COURT That is mechanical?

THE WITNESS That is mechanical

THE COURT Suppose there was no mechanical irregularity would the presence of the balls, themselves produce the condition which would cause the introduction of moisture?

THE WITNESS Not necessarily sir, because we [72] have changed the gasket material to a gasket that is selfsealing

THE COURT Then it wasn't the presence of the balls, it was simply the exaggeration of a condition which was produced by the improper use of gaskets?

THE WITNESS Yes, sir, that is correct, that is correct. They merely exaggerated the condition that was prevalent, that could be prevalent.

THE COURT So that if the gaskets had been all right the mere presence of the balls, themselves, wouldn't have caused the introduction of moisture?

THE WITNESS That is right, because we have overcome that since

THE COURT All right.

BY MR. LAWRENCE

Q But it was a problem at that time? A Oh, quite

THE COURT The problem was not the result of experimentation in patterning, it was the result of a lack of knowledge of the proper gasket, is that true?

THE WITNESS That is quite true, sir, because the same condition could be obtained in clear

THE COURT Was the problem more prevalent --

THE WITNESS In design sheeting

THE COURT I don't think we are concerned with that.

[73] Mr. Lawrence, because the introduction of the balls for the purpose of packing, that was not the prime cause of the breakaway of the gasket so that aggravation of it doesn't mean much. I

don't think

MR LAWRENCE All right, sir

THE WITNESS The third one was what we call a washout pattern, where the balls were not suited to the viscosity or the number of balls was either in excess of not sufficient for a given viscosity That caused variations in patterns of large area or complete washouts, sheets totally unacceptable to the customer at all

THE COURT You got one of those?

MR LAWRENCE Yes your Honor

THE COURT Let's see that.

MR LAWRENCE This is a sample of a washout pattern

THE WITNESS Where it stretches out all over the place

MR KENYON May I ask a question of the witness at this point?

THE COURT Yes, surely

MR KENYON When was that piece of sheeting made, do you know?

THE WITNESS Yes, I know it was produced after 1953 because it has a piece of vinyl gasket on it

MR KENYON You can't be any more precise of the [74] date than that?

THE WITNESS No, sir I don't.

MR KENYON It might have been produced yesterday?

THE WITNESS Not yesterday because I know of the color,

but it could be a late production piece, yes, sir

MR. LAWRENCE: We use this, your Honor, merely as an illustration of a washed out pattern

THE WITNESS: Basically they were the problems that had to be overcome

Q Now, Mr Porter, do all of the employees in the plant of the U. S. Plastic Corporation know of the processes carried on in the plant? A No, sir.

Q Is secrecy maintained? A To quite a degree

Q Now tell me, what employees of the plant are aware of the particular processes that we are concerned with here today?

A There are actually only four of the operating employees who know what it is about.

[75] THE COURT: At the present time?

THE WITNESS: At the present time they know the material is a polymer but that is as far as it goes

Q Tell me, how is the process carried on in the plant to maintain conditions of secrecy? A On all of the original work

Q I am speaking of now.

THE COURT: Now

Q (continuing) As of the present time? A Right now yes

Q But prior to the time the patent application was filed

THE COURT: Just reframe that question so that it will be clear

Q What were the conditions in the plant regarding secrecy of

this particular process prior to April 8, 1953? A At that time the balls that were to be added to the sheet – I will have to start at the beginning; the syrup –

THE COURT How many people were concerned with the various operations?

THE WITNESS Four

THE COURT Four

THE WITNESS Four people. At that time the syrup schedule was made up by the plant production manager.

Q Who was –? A Who was Mr Jack Aleshnick. He naturally would know [76] the thickness of the material and the size sheeting and the number of sheets there had to be produced.

The syrup operator downstairs would take this schedule and produce the syrup to a given viscosity, depending upon what his schedule called for He was the second man who would know what the viscosities had to be.

Q That was the syrup operation. A That was the syrup operation.

Q Do you know who that individual was, or what was his name? A August Mierzwa – M-i-e-r-z-w-a, I believe it is spelled.

The third would be the plant foreman, Mr. August Wiener, who was in charge of the production downstairs; and the fo[illegible]h was myself. And up to that period the balls were weighed out in the laboratory, placed in jars and delivered in boxes to the operating floor.

Q Now where is the laboratory located in the plant?

A The laboratory is upstairs and to the rear of the building The operating floor the pouring area is downstairs on the first floor and to the front

THE COURT Who handled that end of it, in the laboratory?

THE WITNESS I did myself sir I weighed the balls

THE COURT So you were the only one that

[77] THE WITNESS That had anything to do with the weights that were added

Mr Wiener who was the plant foreman, actually stirred the balls into the material on the floor At that time he stirred them all himself, was responsible for their dispersion in the syrup

THE COURT This was during this whole period of experimentation prior to the application?

THE WITNESS That is absolutely correct sir

At the present time, due to our increased production, we have a set-up slightly different In the laboratory we have -

THE COURT Well, I don't think it makes much difference now Does it, Mr Lawrence?

MR LAWRENCE No sir

Q Were any of the other employees permitted access to the laboratory at that time? A Yes, sir, they could come and go The laboratory was not closed to anyone

* * *

[Page 79, line 3]

CROSS-EXAMINATION BY MR. KENYON:

* * *

[Page 128, line 8 - page 130, line 25]

Q Now, when the gravity medium is not spherical in shape do you have to change your controls? A If we could make a powder other than a spheroid and select it as such of exactly the same composition with exactly the same solubility rate, we could then use that at the same type for casting and do exactly the same thing we are doing now But our procedure is such that we produce the greater number of spheroids of a given dimension, which we find to be the best way to approach the subject.

Q Well, isn't it true that a different shape means a difference in viscosity and a difference in solidification rate? A Not necessarily, not if it has the same bulk density They will drop, they will shift, just as much

[129] Q Isn't it true that a difference in shape of the particle means a difference in its resistance to traveling through the liquid? A That is so, sir, but if the liquid is the same viscosity, if the particle is of a given density equivalent to the same as the spheroid, the fact that they both increase in swelling before they start to dissolve will actually make them go to within a fraction of the same distance before they reach complete solution if their solution rates are identical

Q Now, if the shape of the material were altered from a ball shape to something that was non-spherical, you would have to change your controls all the way down the line, wouldn't you, to get the same

result?

THE COURT Suppose you produced instead of spherical shape something like a pyramid, would that make any difference?

THE WITNESS It would make practically no difference, sir, as long as it was basically the same type powder.

THE COURT And the same density?

THE WITNESS And the same density, the same weight. If the particles were of equivalent size, it would make no difference because it is their solution rate that would control the distance they would travel.

Q Well, now, do you remember being asked this question in the discovery proceeding

[130] "Now, what about material that dissolves very nicely but is not ball shaped? How does that work?"

And do you remember answering in this way

"We have found that it will, if controls are adjusted, because all of our controls are adjusted to a given rate of drop. A different shape in a different viscosity would have a different rate of drop due to resistance of traveling through the liquid. You would have to then adjust the controls to the particles size and shape that you are using. "You can't just substitute."

A That is quite true, the statement that I have made is quite true.

Q You stand by that, that is true?

THE COURT It is a difference in viscosity

THE WITNESS Not only that, but that doesn't say it was a similar type of material.

THE COURT But you do stress a difference in viscosity.

THE WITNESS That's right. If the solubility rates are different, then you must adjust your viscosity.

Q And so you must adjust your viscosity if the shapes of the particles differ because of what you called at that time "due to the resistance of traveling through the liquid." A I will not take objection to that

* * *

[Page 150, line 15 - page 164, line 12]

Q — you testified with regard to certain experiments recorded in your notebook, dated 1951 and '2, do you remember that?

A Yes, sir.

Q Your first one that you mentioned on direct examination was dated September 27, 1951, and you said it was the first sheet made under this patented process, and it was for the Hand Bag Specialty Company — is that the name of it? A That's correct.

Q A gold sheet. A That is correct, sir.

[151] Q Then you testified that there is another entry in that book of some sheet, a little thicker, 150 caliper, made November 30, 1951; do you remember that? A Yes, sir.

THE COURT: The others weren't sufficiently stable or strong

THE WITNESS: They were too thin.

Q Too thin? A That's right

Q Now we have a record — this will be in the admissions — that a certain number, 24 sheets, were made and sold by U S Plastic Products Corporation to Hand Bag Metal Specialties between September 27 of 1951 and November 30 Those, I assume, were made downstairs in the factory, is that right? A That is correct

Q They were not made up in your laboratory? A Depending, of course, on how many were made at a time Is that one delivery or several?

Q That is three deliveries of, respectively, 2, 15 and 7 sheets A The two sheets would have been laboratory made, the 15 undoubtedly by a small kettle downstairs on production

Q On production? A That is correct.

Q Now, what was your practice at that time as regards [152] the participation of the laboratory in downstairs production?

A Well, everything was prepared upstairs, as far as the production unit was concerned, the balls were weighed up and delivered to the operating floor in jars.

Q That was done by you? A That was done by myself and no one else at that time Each jar contained the amount for one sheet

Q You said that the entry in your notebook for November 30, 1951, had to do with further orders for Hand Bag? A That's right

Q A thicker sheet? A That's right

Q You did not mention Hand Bag Specialties in connection with any of your subsequent laboratory notebook entries Did they have to do with anything for that customer? A Undoubtedly they did, because he was our first guinea pig

Q Have you anything to show that they did? A Pardon me a minute while I take a fast look here (After referring to notebook) On January 25 Page 55 it is marked, "Hardy" Mr Hardy owns Hand Bag

THE COURT What does it say?

THE WITNESS That is the 250 design pearl test run

Q That was the thick material? A That is right

[153] Q Now between November 30 and January 25 we have, well, we have, for example, a number of sheets, December 17, 112 sheets. Was that an experimental operation? A Not necessarily, that may have been material that was produced for him in 150 thickness

Q Produced downstairs in the factory? A Yes sir

Q Not upstairs in the laboratory? A No, sir only the weighing

Q Those were full size sheets, were they not? A When they started how they ended up I don't know

Q They were made as full size sheets? A Yes, sir

Q In regular cells downstairs? A Yes, sir

Q And put in the regular bath downstairs? A Yes, sir

Q Three days later there was 115 sheets, was that also made downstairs? A Yes, sir

Q On January 4 there was 139 sheets, was that an experimental operation in the laboratory? A No, sir

Q That was production downstairs in the factory?

A Anything over five sheets, sir, you can consider as [154] production

Q Of regular production? A Yes, sir

Q And not experimental? A That is correct, sir, only to the extent that we may have made variations from the entire batch, I will not say they were not experimental, we may have varied balls per gram over the entire batch

Q If a customer wanted something a little different you would make a different one to meet the customer's requirement?

A That is correct

Q But when you were up to 149 sheets, that was production, not laboratory experiments? A That was made in the production units, yes, sir

Q One week later there was 182 sheets, that was not experimental, was it?

THE COURT Anything over five, he said, was in all probability --

MR KENYON Was production

THE WITNESS Production and not experimental, that is correct

Q Isn't it true that these entries in your laboratory notebook, which are November 30 and January 25 and March 28, 1951 and 1952,

respectively, have to do with experiments to meet customers' requirements as to the appearance of the design? [155] A Not necessarily several of these as it was noted, as I read, were actually attempts to clear trouble we were having during regular production runs, such as the bubbles occurring that spoiled two consecutive runs of 45 sheets each, as noted in the notebook

Q What record do you have of that? A I have read it out of the notebook this morning

Q Your bubble entry was much later than the period I am talking about A Forgive me if I have the wrong period

Q I am talking about the period prior to April 8, 1952, and I want to know on what basis you, as the production manager, would say this production, running into hundreds of sheets, was experimental in nature? How do you show that it was? What evidence have you to support that? A If I may, just a moment, sir This material was attempted through my instigation and two other companies' both companies produced the material and sold it on the market commercially, both companies regretted it and pulled it back, they had to take it off, because it was unfeasible for production This time we wanted to be sure, it had to be made

THE COURT Do you have -

THE WITNESS (Interposing) Both Acryvin and DuPont, sir

[156] THE COURT No, no

THE WITNESS Pulled the material off the market, their design sheeting This time we had to be sure that we were right,

that we had something that we could reproduce, something that was acceptable to the trade, that we could afford to make

Q Well, you found that out by the time you sold around four or five hundred sheets by February hadn't you? A Not necessarily sir because I had over three thousand pounds of scrap in the warehouse I still had a lot to learn

Q In your direct examination you said their loss was terrific A That's right

Q That you had produced about eleven thousand pounds and had about three thousand scrap A That's right

Q The difference which is eight thousand pounds, is almost exactly made up by what you sold A That is correct.

Q Now, the eight thousand pounds, then, was in the process of experimentation, do I understand? A It depends, sir, on what you call experimentation

Q Well, what do you call experimentation? A I have already told you, sir. If we had put this material out, if we had put it out in colors and the stuff had faded [157] we had to take all the material back to me that is pure experimentation and not solid, good common sense as far as production is concerned We had to be certain In fact, we only offered it to four customers until we were certain we were right All these things were tested on fadometer tests

THE COURT Did you have any arrangements with those four customers?

THE WITNESS What sort of arrangements?

THE COURT: To return it if it wasn't proper

THE WITNESS: They shipped back every piece that was not fit for use and every piece of a sheet that was not fit for use. They still do.

THE COURT: You had that arrangement with them?

THE WITNESS: Yes, sir. And they still do it today.

Q That is the regular way? A That is the procedure, if they can't use a third of a sheet they ship it back to us, if the pattern doesn't match.

Q There is nothing unusual in that business. A Yes, there was because this was an entirely new field to us, we are not in the handbag business, up until the time we produced pearl.

Q This was not the first pearl you produced, you were producing plain pearl before this, weren't you? A That was not sold to the handbag trade, sir.

[158] Q How many people worked downstairs in the factory? A At that time, 16, perhaps.

Q Sixteen? A That is correct.

Q You say that you personally weighed out the balls and took them downstairs in a bottle? A I weighed them out; they may have been carried out by an operator, but I weighed them out into the bottles myself.

Q Now, how long did you continue to do the weighing operation? A That was changed somewhere around 1953. I stopped a long time before that, but I had a laboratory assistant who did it.

Q You have a girl who weighs them? A Now we have two girls who weigh them, that is correct

Q But you continued to do it for quite a long time before the girls came A Indeed I did, that is correct

Q Finally it had to be taken off your shoulders because it is an operating procedure and not laboratory A That is correct sir

Q You mentioned four people as having access to this process A That is correct

Q Yourself Mr Aleshnick Mr Mierzwa and Mr Weiner A Yes, sir

1159 Q Is that a complete list of people who knew what was going on A At that time, they were the only people who knew what was going on In fact Mr Mierzwa's only connection with it at all was the production of a syrup of the correct viscosity

Q Nobody else knew what you were doing? A They all knew what the finished product looked like, they all knew we placed an additive in the syrup

Q You have named a complete list of individuals to your knowledge? A To my knowledge they are the only ones that had knowledge of it

Q What about Mr Sam Brass, the head of the business? A He knew we put halis in but he didn't know how many In fact I don't think he knows yet today

Q What about Murray Tewes, the driver or truckman?

A Murray Tewes?

Q How do you spell that?

THE COURT T u-e-h-y

THE WITNESS No I think it is T-o-w-e-s or something of the sort - T-e-w-e-s Pronounced T-o-o-i-e-s

Q Did he have access to the factory? A Yes, sir, he was the truck driver who made the deliveries

Q Did he have access to knowledge as to what was going on in there? [160] A It was his privilege due to the fact he made deliveries and pickups everywhere in the factory to go everywhere that was necessary for him to go He went through the entire plant, there were no restrictions

Q He knew what was going on? A I don't know whether he did or not

THE COURT What do you mean? Everybody knew they were making the end products but do you mean he knew the process?

MR KENYON I will reframe the question

THE COURT Please

Q. Did he know that you were using a gravity medium to get a design effect in the material in the pearl? A He definitely knew we were putting something in the pearl whether he knew what it was or not. I have none of his knowledge

THE COURT Well the ordinary truck driver I don't think is much concerned about the laws of gravity, unless he is a

special type I don't know The ordinary truck driver knows that there is such a thing as gravity but he doesn't ordinarily refer to it Now is your question directed to the fact that Tewes had knowledge of the process and the way it was made and how it was done and what was put in what and that he knew what a polymer was

Q Did Tewes have sufficient knowledge of what was going on to convey the secret to someone else of how to do [161] it

A It is well within the realm of possibility though Not only from actual knowledge but from obtained knowledge

THE COURT Well is this Tewes an extraordinarily brilliant man

THE WITNESS He is a gentleman, sir who was fired for selling sheets on the side who swore he was going to get even with all of us

THE COURT Now, was Tewes an extremely intelligent man Because I will tell you frankly I didn't know what a polymer was, and I am a college graduate and a law school graduate and I didn't know what a polymer was until I had Du Pont here before me some time ago and I knew the difference between a monomer and polymer and catalyst and in the mean time it went out of my mind So you are going to have an awful job proving to me that a truck driver and I won't say isn't smarter than I am, that a truck driver excuse me please

(Whereupon a short recess was taken)

BY MR KENYON:

Q Now, why was it that you felt that this truck driver could have learned the essential steps of the process? A He was a little more than a truck driver sir, he happened to be a relative of Jack Aleshnick, who was the plant production manager, he was a refugee from the other side who spoke five languages and was well versed and he was not [162] stupid

Q Did he have some kind of an education? A Yes, sir, he did, at several universities on the other side

Q And this man had access to the place where this process was being carried on? A Yes sir he went all over the plant

Q And you felt he could learn the essential steps of the process? A It was possible

Q And convey them to somebody else? A It was possible

Q Yes Who else had access to this room where the process was being carried on and could have learned about it? A All of the operators sir, knew that we added something

Q Sixteen of them? A That is correct

Q There were no limits on where these men could go around the plant, were there? A Oh yes

Q Not in the office of course but in the factory A In the factory They didn't come in the laboratory except in a case of an emergency because the first aid equipment was in there

Q This process was not being carried out in the [163] laboratory? A No, sir that is correct

Q The process was being carried out in the main factory room A That is right

Q And that is where they worked? A That is correct

Q And they came and went as they wanted to? A That is correct

Q What about delivery people, did they have access to that room? A No sir

Q Now, all of the sheets that we are speaking about in this period from November 2, 1951 up to and including April 8, 1952 which you were examined about in discovery proceedings totaling now, according to this record, some six hundred odd sheets, all of them were full size sheets were they? A They were cast as such

Q Cast as full size sheets, cast in the main factory room downstairs A Yes sir

Q And the room where the main working force works? A Yes, sir

Q And were shipped out then within two or three days [164] in each case after they had been made? A That is the normal procedure

Q Now do you have any records to show in what respect any one of these shipments differed in specification from any other? A No sir, I can't answer that I have no records of that type

Q So far as the records go they may have all been completely alike A They merely specified

THE COURT The records show no difference

THE WITNESS Only caliper that is all

* * *

[The following is from the deposition of Samuel Brass taken November 30, 1954]

[Page 2, lines 1 - 4]

S A M U E L B R A S S, called as a witness in behalf of the Defendant, being duly sworn, testified as follows

DIRECT EXAMINATION BY MR. KENYON

* * *

[Page 17, line 2 Page 36, line 5]

Q What about the material that was made before Porter came? A That was a different material You see with pearl you are taking a very broad word, pearl means a lot Now, if you are talking about the particular thing that we are interested in now, there is only one, and he is the inventor and he is the only one that made that material

Q What do you call it? A We call that design pearl material

Q Where does that name come from? A Originally it came, oh, in the year about, say, from 1931, '2, '3 and '4 It originated in Darmstadt, in Germany, Rohm and Haas of Germany, and duPont also tried to make that along in the years of '41 and '2, possibly '3, and then they abandoned it

Q You are referring to design pearl? A Design And

Mr. Porter worked on the process how to make it for us. That is how we got it.

Q. Now, when did you first put design pearl on the market?

A. Commercially.

Q. Yes. A. Commercially we put it on in '52.

Q. Do you remember when? or rather, are there records which will show when? A. I have some records in here. One company in April 1952, and one company in February, 1952, a third company in February 1952, and we also sold [18] some experimental sheets to a company in 1951 in November.

Q. In November? A. Yes.

Q. 1951? A. That was all practically what we call for a scientific word, experimental sheets, experimental work, not what you call commercially selling you know, like we sell now.

Q. You mean it was not in the same volume as it is today?

A. Well it couldn't be, it wasn't and it couldn't be. It wasn't.

Q. I would like to ask you further with respect to these sales that you mentioned. Let's take the one in November, 1951. To whom was that material sold? What was the name of the customer?

A. It was sold to Hand Bag Specialty Company.

Q. I missed the name. A. Hand Bag Specialty.

Q. Hand Bag Specialty Company? A. Yes.

Q. Where are they located? A. They were at that time in West 41st Street, New York.

Q. Have they moved since? A. They moved since, they

are now in Union New Jersey 117 36th Street, Union, New Jersey.

Q What was the quantity sold to Hand Bag Specialty Company?

A At that time we sold them for experimental purposes 50 pounds

Q Fifty pounds A Four sheets

[19] Q That is four sheets? A Yes

Q Was that a sheet three feet by four feet dimension?

A About that, about that

Q Do you remember what the gauge of that stock was?

A I don't

Q But there would be records which would show it?

A Oh, yes, we have records

Q You gave me the date as November, '51, do you have an exact date of the sale or shipment? A November 2 1951

Q Did you personally handle the sale with Hand Bag Specialty?

A Yes

Q Who did you deal with? A With a Mr Hardy William Hardy

Q Hardy? A Yes

Q Did you visit the Hand Bag Specialty to see what they did with the merchandise afterwards? or did you see any specimens -

A I did

Q - of the product? A I did

Q Made with your product? A That's right

Q What did they use it for? A They made a hand bag out of it, pocketbook

Q. One hand bag or more than one? A No they made a few

Q Did any of those hand-bags come into your [20] posession? A No

Q Did William Hardy keep them? I mean did Hand Bag Specialty keep them A They did And some material I gave them

Q I am talking about the hand bags now the finished hand bags A I sold them a few sheets and at the same time I gave them a few sheets for nothing and they should make me up some kind of a style it doesn't matter what kind, so we can test it and see if the material would stand up.

Q What was the price for which this merchandise was sold, four sheets fifty pounds A Two dollars a pound

Q Two dollars a pound The price then of the sale was $100 A A hundred dollars right

Q Did Hand Bag Specialty pay for it? A They did

Q In addition to the sheets billed, do I understand you made them a present of some additional sheets? A I didn't make them any presents

Q You gave them some? A I gave them some and asked them if they would be good enough to make some kind of a, what they call styles so that we can have it in our laboratory and test to see whether the material will stand up

Q Did they do so? A Yes, they did they made me

samples

Q Sample hand bags? A Yes

Q Now the material, itself had already been tested [21] in your laboratory hadn't it? A In the laboratory it was tested

Q Yes. What additional test was performed after it had been cut up and used in a hand bag? A Well we had it standing in our place, oh, for months to see whether the design would not fade out if the different colors would not fade out That is the most important thing in making a design sheet

Q What was the nature of the pearl material that was used in this? A What do you mean the nature?

Q Some material went in to give the pearl effect, didn't it — A Oh

Q — pearlescent material? A We put in a pearl essence

Q You put in ordinary pearl essence? A Pearl essence

Q That pearl essence, from whom did you buy that do you remember? Who were you buying it from at that time? A Argenta Pearl Company

Q Argenta Pearl Company? A Pearl Company

Q Now was that pearl something unusual or was it their standard product of pearl? A No, it was standard, standard product

Q In making these sheets was some new or different monomer used or was it the standard monomer? A It had [22] to be good monomer

Q A good quality monomer? A Good quality monomer

Q But it was a standard good quality monomer? A Yes

Q Did these four sheets sold to Hand Bag Specialty Company have any color in them in addition to the pearl? A Yes it had, they had two kinds, they had a white pearl and a smoke

Q Smoke? A Smoke We call that in the industry a smoke

Q A little A Black

Q A little black in it? A In other words, like gun metal

Q Two sheets were white pearl and two sheets were smoky pearl is that right? A Altogether it was 50 pounds

Q You don't remember how it was divided but there were two kinds in there? A No some of it was black, two sheets of black and two of pearl white pearl Altogether they weighed 50 pounds and $2 a pound $100

Q In the two sheets that were of the smoky, or dark gun metal type finish, what was added there, ordinary carbon black? A That also could be answered by Mr Porter

Q You don't know, yourself? A I don't want [23] to give you the real technical term of it so we will leave that When it comes to technical matter, I wish you would leave that for Mr Porter

Q Well, I will ask Mr Porter how it was mixed in and so on A And what was mixed in

Q And what was mixed in But from you I would like to know just one thing whether this dye, or black stuff that was put in there, whether it was the standard type that was on the market at that time, or was it something special? Which was it? A It was special

Q It was special? A Yes

Q Where did you get it? A We got it from a number of places

THE WITNESS Where did you get that?

MR PORTER At that time we bought our carbon black from a particular place right down here off Frelinghuysen Avenue the overpass, Carbon something They specialize in bone black I can't recall their name right offhand They are in a supply house right off Frelinghuysen Avenue

Q You don't find that that helps your memory? A I don't remember where we bought it I don't know where we got the particular materials for it

Q Then we will pass that and take it up later Let me put this question to you Was it a product that you [24] had used before? A No

Q I may have asked you this before Are any of the hand-bags made of that material still in the possession of either of your companies, or of you? A I don't know whether - they may have some in the show room, but I don't know

Q Did U S Plastic Products Corporation make any report to Hand Bag Specialties with regard to the hand-bags that were sent back

to you from Hand Bag Specialty? A I can't see why they should report to me

Q No to them A To them? To them?

Q Yes A I don't see where that comes in, Mr Ken yon

Q Was any such report made A I watched the results of the different people to see whether or not the material will stand up. I was interested; I was a manufacturer and to sell it When you have a material like that you must watch it and see what you are going to put on the market If the material will turn bad in three or four months or five months, you haven't got a commercial product to put out It is up to you to watch it Your customers don't sell material they have to take back and return to you So it isn't a question of them, I we the manufacturer has to see whether the product that he is selling is good

Q Now, isn't it a fact that Hand Bag Specialties sold some of these bags to their own trade A Yes

[25] Q And those went into stores and into the hands of customers? A Yes in stores and they sold them

Q Can you tell me who is the Wilhardy Plastics?

A Hand Bag Specialty and Hardy Plastics, that is all the same; Metal Specialties; and so on

Q Hardy Metal Specialties? A Hardy Metal Specialties

Q They are connected with the Hand Bag Specialty Company?

A That's right

Q And Hardy Metal Specialties sells hand-bags?

A That's right

Q It is all one concern, really, in the same place?

A Same place of business, as far as I know

Q Now, isn't it true that Hardy put on the market some of the bags containing your plastic? A They sold it

Q They sold it. It showed up in the stores? A Yes

Q And it had this design pearl plastic as a part of the hand-bag? A That's right

Q Can you tell us or shall we ask Mr Porter, how the plastic sheets were made that went to Hand Bag Specialty Company on November 2, 1951? A No, I can't exactly That is technical and I wish you would ask him how it was made

[26] Q Did he have any selling responsibilities with respect to this stuff? A Well, we all have selling responsibility, we are a closed corporation and we all try to make sales and take orders and do everything

Q And get commissions for it? A We get paid for it: no commission, we get paid for it

Q Was it Porter, the salesman, who handled the sale of this new material, design pearl, to Hand Bag Specialty Company in November 1951? A Not particularly

Q You handled it yourself? A I handled it with him, with him

Q Now, is that the first time you had offered design pearl to

anybody A Experimentally, yes, that is the first time we offered it experimentally to anyone

Q Well, had you offered it non-experimentally to anybody prior to that time A No

Q Then I understand that you are perfectly clear that before this sale of November 2 1951 to Hand Bag Specialty of the sheets that you mentioned at the price you mentioned, there was no prior sale by U S Plastic Products Corporation of this material called design pearl A That's correct

Q But I also understand you to say that prior to that date there had been many sales by U. S. Plastic Products Corporation of other kinds of pearl sheet not design [27] pearl? A Yes, we had sales of clear, colors and some pearl Very little

Q Some pearl? A Some pearl but we called – well, the plain opaque pearl

Q Plain opaque pearl A Which everybody was making

Q That had been on the market for some time before?

A Yes, it had

Q By competitors A By competitors

Q Your company had been making and selling this opaque pearl A Very little

Q But it had been doing it? A Yes

Q It had been on the market generally? A Yes

Q Now, how was that made the plain opaque pearl?

A You will please ask him (referring to Mr Porter)

Q You would rather I ask Mr Porter? A That's right.

Q I understand that Mr Porter can answer for the period after he came with your company, but what about the period before he came with your company? A In what material are you asking

Q Do you want to— A (Interposing) I am talking about pearlized sheets

Q Pearlized material A He is practically the man that put it in and showed us how to make pearlized [28] material

Q Surely you can't mean just that, because you had been selling pearlized material before he came with you A No

Q The rest of the trade had, hadn't it? A The rest of the trade— we weren't interested in the rest of the trade— the rest of the trade did make and sell it, but we didn't We started off with monomer first and then we cast sheets clear and all different colors, but in the pearl business we got in after Mr Porter came to work for the company and made a good product, then I went out and sold not before

Q Now, may I ask you to turn to a sale, to the next sale of design pearl immediately following the sale to Hand Bag Specialty Company What was the next sale made by U S Plastic Products Corporation A Let me correct you not immediately after, not immediately after We made the next sale of this kind of material, design material, to the Jewel Plastic Company February 19, 1952, we sold them 43 pounds at $2, $86

Q At $2 a pound is $86, 43 pounds Where is Jewel Plastics'

located? A 254 Canal Street New York City

Q Who is the man you dealt with there? A A man by the name of Lou Blye

Q Are they still located at 254 Canal Street? [29]

A That's right they are

Q Of the 43 pounds, was it all of one kind or was if divided in different kinds A I don't know. Probably it was four or five pieces from different colors two pieces of this and two the other, but altogether it was 43 pounds at $2 a pound and the bill amounted to $86

Q What did Jewel Plastics do with this material, if you know A They also took it and made some samples. The way a manufacturer is, with a material like that, no matter how good it looks or it sounds he will take it and make up a few articles of it and test it and get results, finds on the results if the material will stand up

Q . Now, what do you remember of what Jewel Plastic actually did with the material A They made up some hand-bags.

Q. They made up some hand bags? A Yes.

Q Forty three pounds of plastic would make up about how many hand bags? A It isn't a question of the pounds, Mr. Kenyon, it is a question of the size Now, some manufacturers make this material say from 125 material, that is, .125 thousandths, some manufacturers take 150, some manufacturers take .187, and so on So it isn't a question of the poundage it is a question of the

size of the sheet. You probably would get on this oh probably a dozen bags, or something like that or ten It all depends upon the [30] size of the style

Q What was the gauge of the material sold to Jewel Plastics? A The gauge I can't tell you I have that in the books but I can't tell you exactly the gauge the thickness of the material that we sent them

Q You don't know the thickness, then? A No. I only know the record here for the amount of sheets the poundage and price and the amount of the bill and the date of sale

Q Did Jewel Plastics pay for this material? A They did

Q What was the next sale of design pearl by your company next following the Jewel Plastics transaction? A We sold to Rialto Button and Wood Products also in February 1952 we sold them two sheets, one sheet of design and another sheet design, which weighed 22 1 2 pounds and 33 1 2 altogether 11 pounds; 33-1/2 altogether, $50 25

Q Where is Rialto Button and Wood Products located? A 583 Broadway, New York

Q Do you have the exact date of this transaction? A The exact date?

Q Yes A Was February 12, 1952 invoice 682

Q Are you sure of that date? Isn't that a holiday? A The sheets, one sheet was delivered on the 7th and that wasn't the design at all, it was plain and the 8th [31] but the invoice No

682 my records show we sent them out the bill February 12, 1952. Possibly it would be that is a holiday, February 12, possibly there is a mistake but we delivered on February 7th and February 8th.

Q Which was delivered on February 7th? A Rialto's order.

Q The design pearl was on the 7th? A No, there was one sheet only of design and one sheet of plain, opaque pearl, and I don't know what it was. Altogether it was 33-1/2 pounds.

Q I am afraid I haven't got this quite straight yet. There was one sheet of design A Design

Q This was delivered on what day? A February 7, 1952.

Q And that weighed 11 pounds, is that right? A Yes.

Q Now, what was the price per pound for that sheet?

A In here according to our books, the whole invoice was only $50 25 for 33 1 2 pounds but we have in here one sheet of plain white pearl at that time we only charged $1 50 a pound -- and another small piece The whole bill amounted to $50 25

Q So you don't have a price per pound in the data you have with you for the design pearl sheet? A The exact poundage, how much it weighed I haven't got it I [32] have got the bill, invoice. I can get it for you

Q All right Who was the man you dealt with at Rialto?

A Mr Rothman Abraham Rothman

Q What was your next transaction, or sale, of this material?

A The next transaction was to Associated Plastic Company, April 9,

1952 four sheets, white design, 45 pounds at $2, $90

Q Where is Associated Plastics located? A 55 West 16th Street New York City

Q Who did you deal with there? A With the owner, Fred he is a friend of mine and I forget his last name I can't remember now It will come to me and I will tell you

Q When were those four sheets delivered to Associated Plastic? A April 9, 1952

Q When was the order taken? A He called up, he called up for that oh, probably the day before or so

Q Do you have any record of that? A We have the record

Q What sort of record would there be on that? A Well so far as his calling up for the order there would be no record, we don't keep that kind of record but when the stuff was delivered to him and the amount

Q Do you have records of when it was made?

THE WITNESS Would you have those records?

[33] MR PORTER Possibly it is still in existence

A If we have them we will give them to you That name is Widmont Fred Widmont

Q Fred Widmont is the owner of Associated Plastics?

A Yes

Q Now let me ask you one or two more questions about the material that was sold to Jewel Plastics on or about February 1952,

which you say was design pearl 43 pounds Your recollection is that some of that was made up into hand-bags by Jewel Plastics because you saw the hand bags A Yes

Q Do you know whether those hand-bags went to stores and were put on sale A I don't know I would imagine so.

Q You don't know, you would imagine so? A Yes. I don't know Please bear in mind Mr Kenyon, all these transactions that were made were all what we call experimental transactions, and the goods also This kind of material that you know can stand up, there you can go out and make commercial sales As a matter of fact I was very happy when a manufacturer of that kind wanted to take in a few sheets, you see, and experimentally make up a product to see how it would stand up besides our own laboratory tests.

Q How long would you like to see a bag stand up [34] before you feel it is satisfactory A At least five or six months —

Q Five or six months A — in the showcase or in the show hall or in its own place, and so on There are so many things that enter into it

Q After it had stood up for five or six months and it was still in good shape you would feel that plastic was all right for sale? A Yes

Q That is about the life you would expect in one of these things? A In a hand-bag Though we expect to have a real life, it should stay forever

Q Did Jewel Plastic send you any of its bags to keep under

observation? and have you any of them now? A No, he didn't send me any, no, no, he didn't send me and I didn't give him any material to make any either But I went in and out, I asked, "How is this working?" "How is this process working?" and so on to see whether or not the material is good

Q Now, when you went to visit his place of business to see whether or not the material was working out all right, did he still keep some of the material on hand? Was it still around his place of business? A Yes

Q Or had he shipped it all out in the form of hand-bags and destroyed this record? A No, I would say he kept a few, he kept some samples

[35] Q Do you recall seeing those samples there? A Yes

Q You remember that distinctly A Distinctly

Q He would back you up on that? A I think so

Q Now, what about Rialto Button and Wood Products there was one sheet there, as I understand, that contained design pearl A Yes

Q Was any of that made up into bags, as far as you know? A Yes, as far as I know that was made up in bags

Q Did you see any of those bags? A I didn't see them, but I spoke to him about it

Q You talked to Abe Rothman about it? A That's right He is a fellow that wouldn't let you see anything

Q Did he express himself as being satisfied or doesn't he

ever do that? A He doesn't do either But he said, "We'll see, we'll see I will give it to my salesmen and we will see, and we will let you know If it does, why then we will order more."

Q So you had re orders since then from Rialto, I take it?

A Yes

Q And you had re orders since then from Jewel Plastic?

A Not right now, but I did

Q You have had them? A Yes

Q What about Hand Bag Specialty, or Hardy Metal?

A Oh they ordered a lot

[36] Q You had good orders since? A From all of them I got big orders, I got orders of 150 sheets at a time

Q The same is true with Associate Plastics? A Associate Plastic is a smaller one and they don't use as much, but they also take big quantities

. . .

[The following is from the deposition of Frank E. Porter taken March 17 and 18, 1955]

[Page 2, lines 5 - 8]

FRANK E PORTER, called as a witness on behalf of the defendant, being first duly sworn according to law, on his oath testified as follows

DIRECT EXAMINATION BY MR KENYON

. . .

[Page 75, line 19 - Page 161, line 7]

Q I believe you have somewhere taken the position, I think at your earlier examination, that on this day, September 27, 1951, this invention had been made Is that right? A This is the first time that the bead stock was used

Q Now, what is there in this entry Number 3 on page 44, which distinguishes it from the previous [76] entries that we have been referring to? A The other places it was either identified as molding powder or - here it is identified as bead stock

Q And what is the difference? A The difference, sir, is in the shape of the material, the type of the material

Q Shape and type? A That is right

Q By "type" I suppose you mean chemical composition? A That is correct

Q So what was new then on September 27 1951, was with respect to the shape of the material and its chemical composition, is that right? A Its shape and its chemical composition? Yes, I have to say yes to that

Q Now the thing that was new about the shape was that you had come to a true spheroidal shape to the particle as distinguished from heterogenous shapes before? A That is quite true

Q And what was new about the chemical composition? A Well, that sir, I am not at liberty to disclose, because that is the subject of another patent pending right now I will tell you this, that it is a very low molecular weight molding powder

MR LAWRENCE I think that is what Mr Kenyon was really asking about

[77] Q I will stand on my question

(Question and answer read by reporter.)

Q Without asking you the method of manufacture, which I do not inquire about, I want a comparison to illustrate what the word lower means in that answer between the molecular weight that had previously been used and the molecular weight now involved

A About the easiest way that I can explain it, the composition of the material is such that if you were to put one grain of it in a given volume of solvent and you were to put one grain of pressure type molding powder in an equivalent amount of solvent, the rapidity at which they would dissolve would be almost half as great. In other words the pressure powder would dissolve much more rapidly than the material that was made the atmospheric powder dissolves much more rapidly than the material made under pressure

Q The thing you call atmospheric powder - is that the phrase?

A That is right

Q (Continuing) - that has in methyl methacrylate polymer a higher dissolving rate than compression molding powder has?

A That is correct

Q But the compression molding powder is also methyl methacrylate, isn't it? A That is right

Q And so is this atmospheric polymer of yours? [78]

A That is right But their densities are entirely different, due to

the way that they are made plus your stabilizers

Q Chemically it is the same material? A Chemically the basic elements are the same, but the processes of manufacture are entirely different

Q What about the end result of the processes? A They are entirely different

Q With respect to compression molding powder, you said a while ago that it had a very high molecular weight A That is right higher than injection

Q Well, without making comparisons for the moment, you say it had a high molecular weight A That is right

Q What, approximately, is that molecular weight? A As I remember - I have had very little use to check figures on it of late - it runs between 500 000 and 800 000

Q That is the molecular weight? A The molecular weight

Q Now what approximately is the molecular weight of this atmospheric polymer made by your process, which I am not asking you about A Somewhere between 75 000 and 110 000 We are talking now of standard white standard clear this material (indicating) [79] because they are different

Q Just a moment When you gave me the figure 75,000 to 110 000 you were speaking of the powder in Exhibit 31?

A Exactly

Q Which is injection molding powder? A That isn't what I want, then I am sorry, sir I am speaking of this material

(Indicating), which is our sample.

Q You were mistaken. What you intended to refer to was Exhibit 33, which is the atmospheric molding powder? A That is right, in clear form.

Q Now, I now come back to Defendant's Exhibit 31, which is a sample of injection molding powder. Do you know approximately what the molecular weight of t. at material is? A Approximately. And once again, I have had no occasion to check figures of late. It runs between 350,000 to 600,000. To be correct on that I would have to get their manual and check it.

Q How would that figure be checked? A How would that —

Q Yes. Could you just tell us how that figure could best be checked? What would be the procedure? A Take duPont's manual and obtain it right from their specifications. It is given, what the molecular weights of the various powders are.

[80] Q Mr. Carr hands me a duPont folder, which may or may not help on this. Do you find anything there that would clear the matter up? A (After examining) No, they don't give it any more. They are giving the solubility instead.

Q Now, the test indicated in this note of September 27, 1951, gives some information, then, with respect to the viscosity, desired viscosity of the polymer, doesn't it? A You are way ahead of me, sir, as far as tests on material of this nature goes. That is one sheet, and from that you can't draw any correlation for anything.

You merely have a place to start All you know is that under that set of conditions at that particular time you got a good sheet

Q Then if I understand you, what happened on September 27, 1951, was that you just happened to hit it? A That is right It was a place to start

Q Well, you just happened to hit it? A That is right.

Q You used this bead stock The bead stock, I take it, had been made originally for some other purpose around the shop? A It was sold for an entirely different purpose

Q The company happened to be making it? A That is right

[81] Q And you picked some up and tried it out? A That is correct

Q And it worked like a charm? A In this particular case it came out swell There are other cases later on where it didn't come out so good

Q We will come to those The viscosity in this was a Z viscosity cold? A That is correct

Q So you testified And the amount of bead stock was five grams per pound? A That is correct

Q Of the polymer, per pound of the polymer A That is correct per pound of polymer

Q That again was an accident, you hit it? A I have no other basis to go on except that from previous work with other polymers you knew about how much it would take to give you a dispersion

throughout the sheet

Q Now, you knew when you selected this bead stock for this experiment that it would dissolve in the polymer? A No, sir. I knew it was a softer polymer, but I had never had occasion to dissolve in the methacrylate before. That was not its end use. In fact, as you see, I tried to homogenize it and couldn't, because it blocked up the homogenizer.

Q The homogenizer is a grinder, essentially, isn't it? A That's right. It wouldn't grind.

[82] Q So if you, at the completion of this test Number 3 on page 44, had been asked to tell some other human being how to do this, you would have said, "Use this bead stock in the sizes we happen to have in the place, use five grams of it per pound of the polymer, use a polymer that is at a Z viscosity cold, cast it in a sheet that is 125 caliper, and it will come out fine"?

MR. LAWRENCE: I don't know what you mean when you say "to do this." What do you mean?

Q To produce the effect you got. My question is that what you had accomplished, then, by this test, was to establish that if these particular conditions were reproduced again, you should get a good result, the same good result you got here? A No, sir, that is not stated quite correctly.

Q Would you state it correctly, please? A That there would be a possibility that you might reproduce your result. You can't draw any conclusion from any one laboratory test at any one

time concerning anything you do

Q Then this - A It is merely an indication

Q Did you thereupon carry out other tests along this line? A I think if I am not mistaken, it was quite some time before any additional work was done, because at that particular time we were not in a [83] position to manufacture it even if we developed it I don't know where we go from there I continued to work with it

Q Would you turn to page 50 please, for a moment A Two and a half months later

Q The second test there was that a test for the making of a design pearl? A No sir, it is not

Q What is it? A That is a white opaque sheeting made with Claremont Dispersion 4230 TDR 1 which is titanium dioxide in acryloid base material and it was made for the production of sinks in airplanes, a white opaque cast

Q Is that also true of the entry at the bottom of the page? A Yes sir the same thing That was a smooth smoke

Q Now, on page 51 there is a note on that page Is that note in your handwriting? A Yes sir

Q And what is the date of the note at the head of the page? A December 1 1951

Q Had you found that variations in batch size made some difference in the way the design came out? A It has nothing to do with design sir That is merely a control of production of syrup downstairs regardless of its end use That is merely a set procedure

for operator control on batch sizes in the kettles, [84] regardless of end use

Q And the warning that is expressed there, namely and I quote, "As a batch size is varied, the final viscosity should be varied one letter for each fifty pound variation of weight either up or down"; that observation applies to all design pearl casting today, doesn't it? A. All batch sizes, it doesn't make any difference whether it is design, smooth or clear, that is merely a control on the batch size in a given type of kettle for the production of syrup It doesn't make any difference what the end use is That is merely a viscosity control for a given kettle for a given batch size, and variations of that batch size, which at that time was standard

Q In making design pearl, your viscosity that you want to control is actually the hot viscosity, isn't it, but the only way to control it is to control the cold viscosity? A No The viscosity that you want your control on is the cold viscosity that you are going to use

Q That is the one you make a record of? A The only way to control the cold viscosity is to know when to shut it off hot, which is what they are told here. This is strictly for the operation

Q Now would you refer, please, to page 56 At [85] the top of the page there is an entry, and is that entry in your handwriting? A It is

Q What does that have reference to? A It has reference to a special type of pearl that was being tested

Q Was that a design pearl? A No sir, it was not In fact, we were trying to smooth, by the notation because it says that there was a small amount of granular in the bucket when they transferred it downstairs If this sheet is striated, it is not the fault of the pearl which I was trying to test

Q Now, you were trying to make at that time a smooth pearl? A That is correct

Q Was that an item in regular production at the time? A Smooth pearl?

Q Yes A Absolutely That is what we were manufacturing

Q And do I understand that a certain striation turned up in one of these production sheets? A This isn't a production sheet, it is merely a sample sheet produced in the laboratory testing a specific type of pearl It happened to be Rona pearl, high lustre made specially

Q Now, when you tested that type of pearl, you expected to get a smooth pearl sheet? A That is [86] correct

Q And in this test in the laboratory you didn't get a smooth pearl sheet? A No, it doesn't say that, sir What it says there is, "When the material was transferred from its mixing container to the evacuating bottle, it had evidently been used on a test that contained some molding powder previously and wasn't clean" Therefore, the notation was made that if there were striations in this sheet, it was not the fault of the pearl, it would have to be rechecked

Q Apparently there may have been some striation that showed up in that sheet, otherwise this entry wouldn't have been made?

A No This was made when the sheet is cast

Q Yes But this entry in your notebook must have had some cause A There was doubt in my mind when I saw the sheet, that there may be striation there By "striation" I mean hairlines in the finished pearl This particular thing you are trying for, high lustre, which is a very smooth layer, if the material had been filtered correctly, if there had been any powder in the container, it wouldn't be there For some reason, this was contaminated, so it was noted as such, that is all

Q It was contaminated then, with some granular [87] particles that had been in the pail? A That is correct, and so stated

Q And the result of those granular particles getting into the mix at the moment of pouring or just before, lead to the appearance of hairline striations? A I didn't say that, sir I said there was a possibility of that, and it is so noted It doesn't say it did occur

Q Well, I am asking you for your recollection in addition to what is written A I don't know sir If I did, I would have so stated before I don't remember on this particular test, because that quality of pearl wasn't one that we could use, in the first place Very little was done with it

Q But you would have scarcely written down this notation

about the small amount of granule powder in the pail if something hadn't happened to bring -- A If it --

Q Let me finish my question You would have scarcely made this notation in your notebook if something hadn't happened, some accident, to bring the matter to your attention? A The fact remains the chances are one hundred to one if it had been striated, it would have been so noted and rerun. There are no notations even until two weeks later, that any [88] further test was made on it, so it must have come out quite smooth

Q What called your attention to the fact that there was granular powder in the pail? A The fact that I saw it when it was put in physically

Q So it is a fact, then, that in running smooth sheets, one would have to be careful to see to it that his mixing pail was absolutely clean lest there be some granular particles in it that might produce hairlines? A If you will just change that to say "any foreign particles," I will agree with you 100 per cent It doesn't have to be granular - any foreign particles

Q Any foreign particles And why would they produce these hairlines? How would they produce them? A Because in your shrinkage you get a shifting of the polymer We are right back to this again And when it shifts as it shrinks, 17 per cent in an area of 100 thousandths thickness is quite a sizeable amount of shrinkage It has to pull in and give somewhere, and as it does, acrylic does not polymerize evenly, it is spotty For that reason you never know where

it is going to begin or where it is going to stop, and your shrinkage -- you may be three-quarters shrunk in some place and not even started in another.

So any small item that is in there, even a [89] piece of dirt, will cause a striation, and by "striation" we mean a minute re-orientation of the surface pearl.

Q In part, at least, owing to some gravitational effect on the particles themselves? A Once again, based entirely upon the density of the particle.

Q Yes. But the point is, isn't it, Mr Porter, and don't you agree with me, that in casting clear pearl one must take care that foreign particles don't get in, because if they do they may, through their gravitational effect or otherwise, cause such disturbance of the pearl that it isn't any longer smooth pearl? A That isn't quite the way I stated it, but I will buy it.

Q Your answer to my question is yes? A Yes, I will buy that.

Q Then if an operator of a process for making smooth pearl sheets carried out in the usual and regular way were pursuing his course but through accident he found that he had -- through accident -- he used a bucket containing some foreign particles, such as you mentioned, he might very well get the gravitational effect that is mentioned in your patent? A Once again, based upon the density of the particle.

Q If it had the correct density, he would get that result?

A With that I have no argument

[90] Q Now on page 57 of your notebook there is an entry under the heading January 25 Is that your handwriting? A Yes, sir

Q What does that have reference to, Mr Porter? A. It has reference to the size of the designing medium that was in this test sheet

Q By design medium you mean the gravity medium?

A That is right

Q Perhaps if we both call it the same thing -- I will be glad to call it what you call it You call it the design medium?

A Designing medium.

Q And when you give that name to a thing, you mean the final divided material that is in there to act by gravity to reorient the pearl and move a little distance under the influence of gravity before the thing has hardened Is that what you refer to? A With one slight correction again a compatible material

Q Well, whatever the material is, it has to meet some other --

A No because we run a lot of tests on materials that are not compatible

Q Well now, let's see This designing medium must in the first place be compatible, as you say What does that rule out?

A Practically anything that is not soluble in methyl methacrylate

[91] Q Apparently also it rules out some things that are soluable in methyl methacrylate, doesn't it? A If they are not completely soluble in a given time cycle, yes

Q It rules out those forms of methyl methacrylate which have a molecular weight, well, approximately 350,000 and up? A We are speaking now of a controlled, reproducable pattern, correct?

Q We are speaking of one in which the particles sink under the influence of gravity a little bit, to some extent, before the thing hardens. A No, that is not quite correct Then we are not speaking of the same thing.

Q I thought I was speaking of the invention in your patent A You are But that is a controlled, reproducable pattern There are a hundred thousand things that will make a pattern that you can't control That is why I wanted to firmly establish what we are talking about.

Q Now, one of the things that gives this control is compatibility of the material? A That is right

Q And that rules out everything except methyl methacrylate? A No, that isn't quite true either It rules out everything that is not soluble in methyl methacrylate

[92] Q I see Everything that is not soluble? A There is quite a distinction

Q Yes What is an example of a substance other than methyl methacrylate which is soluble in methyl methacrylate? A I can take some of the vinyls and make them completely soluble in methyl methacrylate

Q There are some vinyl substances? A That is correct, when correctly formulated There is some trick to getting them

Q What does that mean, having low molecular weight?

A Not with the vinyl, no, because they are very low to begin with

Q What is the trick there? A It is a question of solubility

Q What physical condition do they have to be in?

A Actually with vinyls, when you start doing tricks with it, you use quite sizeable pellets

Q I am talking about the physical condition of the vinyl that would make it compatible A Very soft

Q How do you get it soft? A Plasticizers. In its formulation, not as an additive

Q Can you give us some rule on that? A No, sir, because it is not standard You can't [93] buy it on the market. I am merely telling you something else that is developed that we know we can do tricks with

Q That is to say that you know could be used in the process of this patent? A That is correct

Q And that is a vinyl which is softened with plasticizers so that it works? A See, sir, we work with this continually

Q And as you worked with it continually, you found a certain number of things that will work in this process, one of them is this form of methyl methacrylate, which is very low in molecular weight and is spherical in form A That is correct

Q Is that right? A That's correct

Q Another one that you have found is a vinyl material which

is quite soft which has been softened by working in plasticizers?

A That's right, in its formulation, not as an additive.

Q I understand so. In its initial manufacture. A That is correct.

Q Are there any other substances which you have found?

A Yes, methacrylate in various forms you can design with, but that is why I am specifically.

Q I am sorry. Perhaps my question was not made specific enough. Are there any other substances other [94] than methacrylate which are compatible besides the vinyl you have first mentioned?

A Not that I know of, sir, not that I have tried.

Q Now let us confine ourselves, then, to methacrylates, which I suppose there are a good many. A That is right.

Q You have found that there are certain methacrylates which will not work in this process of your patent, namely those of very high molecular weight? A That is correct.

Q 350,000 and up, 600,000, 800,000? At those levels of molecular weight the material is not compatible? A No, that isn't quite correct. The material, sir, is entirely compatible, but on the casting cycle it is not completely soluble, which are two entirely different things. Any methacrylate will create a pattern of some description. But as I told you before, we are speaking of a specifically reproducable, controlled pattern, which requires controls, not just guesswork in whether or not the material will dissolve in a certain length of time.

Q Well, you have found the key to that in this spherical material A For our completely reproducable pattern, yes, sir.

Q (Continuing) -- of low molecular weight, [95] which will dissolve in the syrup, in the polymer, while the polymer is hardening and thus won't go all the way down to the bottom as some of these incompatible things will A That is correctly stated

Q Now, let me turn to the question of particle size, desirable particle size Did you begin experiments on that subject?

A Yes, sir

Q And what did you discover on that, sir? A We discovered that the fines - see, if I can remember these figures correctly

Q The notebook is free for you to look at A Yes, but a lot of this where you just test out what you are going to use or not use you wouldn't even bother to record We sieved out when we started this thing - let me check We had one specific size we used.

Q You might look on page 57, the second entry I see a reference there which I think is sieve size A That's right, but that is only one instance and that is much too big Yes, come on over to page 63 Well, that, once again, is a specific item I have to get one that isn't

Q. Would you mind looking at 65? Down near the bottom A Well, that again is a specific item That is Schner Block material That isn't regular production, that is a specific type of material of [96] which you have a sample

Q Don't you use balls all through the tin mesh? A I

want to be accurate when I tell you

MR CARR Page 73?

THE WITNESS No, that once again is the same Schner-Block material We are trying to get a finer pattern

Q Will you look on page 112? You may find a reference

A See I can tell you what we are using but I don't know when we started, which was the question asked

Q I am concerned at the moment with ball size You may find something on this on page 57. Well that I have already called to your attention

Would you say, Mr. Porter that the size of the ball to be used in any given job depends on the caliper of the sheet being cast?

A No sir The material that I gave you here is our production material It is used in every caliper sheet that we produce and that is through 40 but not through 20

Q Are the ball sizes the same in Exhibits 33, 34 and 35?

A No sir

Q What is the difference there A In the size This material, Defendant's Exhibit 33 is through 40

Q Through screen 40, you mean? A Through [97] screen 40 - through 20 but not through 40

Q In terms of screen size? A Yes It is through 20 but not through 40

Q That is the cut then, in size? A That is the cut in size.

Q What about Exhibit 34? That is the red one. A The red one is all through 40 but not through 60

Q And what about the yellow one, Exhibit 35? A These will not go — I am going the wrong way again

Q Let's begin over again. With respect to the red — A These are through 10 but not through 20, and the yellow are through 5 but not through 10

Q Unfortunately, when you say these — A Number 35.

Q Exhibit 35 A Is through 5 and not through 10

Q Now take Exhibit 34. A Through 10 but not through 20

Q Now take Exhibit 33. A Through 20 but not through 40. Now we have it straight.

Q And the reference is to screen size? A That is right.

Q When you say 5 and 10 and 20 and 40, what does that have reference to in terms of screen size? A That is mesh to the inch of screen surface

[98] Q Now, Exhibits 33 and 34 are now in regular production by the U S Plastic Products Company? A That is correct

Q Exhibit 35 was formerly used in production but currently is not being used? A That is correct.

Q What is the reason for the difference in size between the balls in Exhibit 33 and those in Exhibit 34? A Basically the difference is not the size but the fact that the ball had to carry a definite amount of pigment in order to do its job, to leave a streak of color And in order to obtain that much pigment, it was necessary to increase

the size of the ball that was holding it. That is the reason for the difference. If I were to take this material—

Q Exhibit what? A Exhibit 35; in particle size of Exhibit 33, I cannot get the same end result.

Q In terms of coloration? A In terms of coloration. That is the difference.

Q But you would get the gravity effect in the disturbance of the pearl as a result thereof? A Yes, sir.

Q Now, how did you come upon this particular ball size which seems to you to be the best for your operations, apparently, at least in ordinary white, as [99] illustrated in Exhibit 33?

A By trial and error, by sheets that you never bothered to record. It isn't necessary. It is just a process of elimination until you balance all of your existing conditions.

Q So finally you came to the ball size of Exhibit 33 as being the one that— A That would give us the most consistent results.

Q Give you the best results. A With this particular type of polymer.

Q And you had to make plenty of tests to find that out? You wasted a good deal of material? A You are quite correct, sir.

Q You made tests with ball sizes both larger and smaller?

A That is correct.

Q Many of them? A Many of them.

Q Could you hazard a guess as to how many? A I would venture to say in the combinations there would be well over

fifty, because you not only had to vary your balls, but other conditions such as your viscosity and the rapidity of polymerization.

Q Now, this size, just from my notes in Exhibit 33, is between screens — A 10 and 20 — 20 and 40

MR CARR Through 20 but not through 40

Q Would you open your notebook, please, to page 63 Do you see there a record of a test using some [100] material that had gone through a 20 screen? A Yes, sir

Q What was that material? A That is stock similar to Exhibit 33 You will find any references from now on will be of this material unless otherwise designated

Q When you say "from now on," what date do you take as a point of reference? A From the first day it was used, wherever it is

MR CARR Page 44?

THE WITNESS Page 44 was the first time it was used Unless otherwise stated, from here on we are speaking of the polymer produced by U S Plastic Products

Q As illustrated in Exhibit 33? A That is right

Q Now, in the notations on page 63 I observe reference to a test in which a certain weight of balls per pound of stock was used Do you find that there? A Yes, sir.

Q This was balls through a No 20 screen? A That is right

Q So I suppose that is just like Exhibit 33? A That is

right.

Q Now, how many grams were used per pound of [101] stock? A Ten grams per — well, we are speaking of No. 1, is that correct?

Q Yes. A Ten grams per pound in one, and fifteen grams in the other. There were two tests on that same date.

Q Was the viscosity the same in each case? A No. One was T viscosity and the other is Z plus 1.

Q Now, let's team those up together. The ten grams was used with what viscosity? A Ten grams was used with the Z plus 1.

Q And what was the result noted? A The striation was exactly right, the opacity was light. Repeat the test, increasing the opacity.

Q The striation was good, then; is that a good design? A That is right. For this particular type, which is a special type of which you have a sample, a fine design for a Schner-Block only.

Q But it was a good design for that purpose? A For this particular item.

Q Now, what was the other test on that same page? A Fifteen grams of balls through 20.

Q And your viscosity? A The viscosity was T cold, but that was made with 100 per cent synthetic material and no real pearl at all. The result: it was opaque enough but it was lacking in striation.

[102] Q So the design didn't form there? A The design didn't come up at all.

Q Poor design or no design? A That's right. It was low in design.

Q What do those two tests indicate? A They indicated that changes had to be made before the customer would accept the material.

Q Yes. But in terms of carrying out this process of yours, what did you learn from those two tests? A Well, his quality material could not be made with normal pearl, that we could get the design that he wished at Z plus 1.

Q That is cold? A Cold viscosity. But we had to increase the opacity by increasing the intensity of the pearl to get what he wanted.

Q I thought you got a good design with the Z plus 1 viscosity. A That is what I said. But the opacity was light. Therefore, it indicated that you had to increase your pearl concentration.

Q Oh, yes, that is a matter of increasing the pearl. A That is right.

Q But so far as design was concerned, you about hit it? A It gave us good striation.

Q Ten grams of balls and Z plus 1 viscosity produced a pretty good design? A That is right.

[103] Q But on the other hand, fifteen grams with a T viscosity didn't produce a good design at all? A No, because his design

had to be a very close one, as I explained before. He makes a very small item, only three-eights of an inch in diameter.

Q Now, what was the date of this test? A March 24.

Q That is what year? A 1952.

Q Based on the information which appears there, would you say that the reason why the second one produced a poor design was because it had too many balls in it or because the viscosity was too low? A Due to the type of stock this is, requiring a very close design, I would be tempted to say, without seeing the sheet to have reference to it, that the lighter viscosity allowed the pattern to open up and to stretch out and not be close enough for his satisfaction. In other words, it would require a higher viscosity even with the larger amount of balls to get a pattern that was close enough and fine enough for his end use.

Q In the second of these tests you put 50 per cent again in weight of balls in? A That is right.

Q And you made the syrup a good deal thinner? A That is correct.

[104] Q And with that combination your design failed?

A. That's right. I did not have a close design.

Q It wasn't satisfactory for the purpose? A No, sir.

Q And you can't attribute it to either one thing alone --

A No, I wouldn't say it is basically a function of either one or the other.

Q It is the combination that spoiled it, is that right?

A Yes

MR LAWRENCE You are asking him on the basis of what he knows today?

MR KENYON On the basis of all he knows now, plus what he sees there

THE WITNESS I would say yes, because in this particular thing you are trying for a very shallow pattern

Q Now, on that same page 63, do you see a reference to repeating the test using a Z1 viscosity? A That is right

Q And around ten grams of design material, where you ran two different thicknesses of plate? A That is correct

Q Now, how did those tests come out? A I have them marked okay

Q Each one? A Both

[105] Q There was, however, a difference in the weight of balls used, was there not? A Yes

Q In the case of the 100 caliper sheet you used ten grams, and what was the amount used in the case of the 125 caliper sheet? A Twelve grams

Q Why did you increase the amount? A Because you have a larger area to serve a larger volume

Q Having a larger volume of surface, you must have more balls in there? A That is right

Q Why is that? A Because they tend to dissolve much more rapidly in the larger area. Very briefly, let me put it to you

this way If I go up to a 250. I will use thirty grams of balls to the pound, against the 100 with ten

Q At 250 caliper you would use - A Thirty grams to the pound to get this same effect

Q Thirty grams to the pound of balls, whereas at 100 caliper- Is that what you said? A That is right, it is using ten And 125 is using twelve, as I so stated There was a very definite reason for that

Q Well, before we come to the reason, I would just like to state this thing to see if I understand it correctly that with increasing caliper, that is to [106] say, with increasing thickness of the sheet to be cast, it is necessary to increase the weight of balls per pound of syrup? A With this designing medium, yes

Q To get the effect - A To get comparable results in two calipers of sheeting, yes

Q You mean to have the two calipers look alike?

A That is right

Q Is it a matter, then, of getting two things that will look alike but be different in thickness? Is that what we are talking about?

A The reason why they must match, you sell the same sheeting to the same customer and he uses parts of the same sheeting in producing one item . For his satisfaction, the designs must match And you were talking about surface area appearance, not volume He is not interested in volume, he is only interested in how the surface is

Q So to get the same surface area appearance -

A With this designing medium

Q Yes (Continuing) — in stock of different thicknesses, to get the same surface area appearance in stock of different thicknesses, you increase the concentration of balls in the syrup? That is what it must be, if the balls are the same size but there is more weight

A That is correct.

Q You increase the concentration according to [107] what rule you have. Is this doubling it? A No, sir. That was established, once again, by trial and error

Q You have a curve somewhere that snows it? A That is exactly what we have

Q A curve which is based upon the assumption of using the balls of Exhibit 33 in syrup at some fixed — A At controlled viscosities at a given casting cycle.

Q By "controlled viscosities" you mean the one you are now using, Z1, whatever it is? A Yes.

Q Is Z1 the one that you have now, cold? A Yes, we use it once again We may vary that, depending upon thickness, depending upon the end result We don't make any one type of design sheet, we make four If I told you I used Z1 on all types of sheet, that wouldn't be correct It depends entirely upon our end use But we, when we are speaking of our design, are speaking of our standard design that is the largest running material . On that it is Z1, Z to Z1.

Q Z plus 1, don't you mean? A That is right

Q So, sir, you say for your standard production using this

design medium of Exhibit 33 and the cycle of casting which you use in your factoring, the viscosity is Z plus 1 code? A For a given caliper. We [108] • work from X to Y to Z to Z plus 1

Q Depending on caliper? A Depending upon the caliper You can't say blank, you do a certain thing, because you don't

Q Well, then, I would like to know what — you say X, Y, Z and Z plus 1. I would like to know what calipers are related to those different viscosities. A If I make standard 100 sheeting —

Q 100 caliper? A We are speaking of standard pattern

Q Yes. This is design pearl? A Design pearl, standard pattern design pearl. (Continuing) — we will attempt to run with an X to Y viscosity.

Q For 100 caliper? A For 125 it runs between Y and Z. For 150 and 250, we run from Z to Z plus 1 The reason for that is that we must end up with sheets of all the same caliper with patterns of the same length.

Q In addition to varying the viscosity in accordance with the caliper, you also vary the ball concentration with the caliper, do you not? A Yes, sir.

Q Now, how is that related to these different calipers you have mentioned, 100, 125 and 150 to 250? A Once again, that is a standard operating procedure You know so much about it already that it doesn't make [109] any difference

Q I think you already testified that for material of 100 caliper you use ten grams of balls per pound of syrup, is that right?

A Only for this Schner-Block material which I have gone over and over It is a special type of design Let me put it this way—

Q My question is not limited to Schner-Block material. I am talking about your regular production today. A I don't use ten grams in regular production I haven't said that I did We have been talking up to now on this Schner Block material

Q On page 63 A Yes

(Short recess)

MR KENYON We will suspend the taking of depositions at this time and resume at the same place at 10 00 a m tomorrow morning

(Adjourned until Friday March 18, 1955, at 10 00 a m , Newark, N J)

[110] (Friday, March 18, 1955 Met pursuant to adjournment Appearances as noted.)

F R A N K E P O R T E R resumed on behalf of the defendant

DIRECT EXAMINATION BY MR KENYON (CONTINUED)

Q At the close yesterday, Mr Porter you had testified with reference to the weight of balls used at various calipers, in the stock produced for Schner-Block by your company at the present time. Is that right? A That is correct, sir

Q And you testified, according to my notes, that at a caliper of 100 the weight of balls was ten grams per pound of polymer, at 125

it was twelve grams, and at 250 it is thirty grams Is that correct?
A Up to thirty, yes, sir.
Q With that single exception, the statement I made is correct?
A That is correct.
Q Now, precisely what is it at 250 caliper? A Well that depends, sir, on the material itself. Various colors require less for a matched color pattern. Some may take 25, some may be as low as 18.
Q These are colored buttons? A No, colored sheets
Q Yes. But they are going to make buttons, aren't they?
A No, going to make pocketbooks.
[111] Q This is Schner-Block? A Oh, in Schner-Block we make nothing but 100. That is the only caliper we make. There is nothing but that caliper.
Q And for that, the weight of balls is ten grams per pound?
A That is correct.
Q And what is the viscosity? A The viscosity of that is Z plus 1 to Z plus 2.
Q You are speaking now of Schner-Block production?
A That's right, production.
Q By U. S. Plastic Products? A By U S Plastic at the present time.
Q Are you also at the present time producing design pearl sheet for other customers than Schner-Block? A Yes, sir.
Q And in various calipers? A Yes, sir.

Q Do you produce any of this material in 100 caliper thickness? A No, sir

Q Do you produce any of this material in 125 caliper thickness? A Yes, sir

Q What weight of balls per pound do you use in 125 caliper?

MR LAWRENCE Now I am going to object to this question and advise Mr Porter that he doesn't have to answer it if he doesn't want to, as far as what you are doing at the [112] present time in your production methods

A We have already covered the amounts that go into the sheet in the various calipers I told you it goes 125 150 up to 250, the amounts that go into this for a specific type of sheeting that is necessary

Q You indicated that you were speaking of Schner-Block production, as I understood it, and I wish you would clarify the record on that now A As I told you before Schner-Block is one particular type of material made in 100 caliper only and no other The other materials that we make for pocketbooks, button stock and whatever their end uses may be are in 125, 150 187 and 250

Q Calipers? A That is correct

Q And what is the weight of balls and the viscosity used in your 125 caliper production at the present time?

MR LAWRENCE I object to that question, too, on the ground that it is privileged, his present production method, and advise Mr Porter that he doesn't have to answer it unless he

wants to.

Q Will the witness answer? A If I am not mistaken, late in yesterday's session we went over the amount of balls and the viscosity of each type for [113] normal standard procedure I believe you already have that information.

Q Very well, then. If you have already told us about this subject, I will now press for an answer to my question.

A Then may I have the reading of yesterday's answer?

(Pending question read by the reporter as follows:

"Question: What is the weight of balls and the viscosity used in your 125 caliper production at the present time?")

THE WITNESS: I am quite certain the answer I gave yesterday was for 125 X to Y, the viscosity for 150 was Y to Z, the viscosity for 187 was Z to Z plus 1, and the viscosity for 250 was from Z to Z plus 2.

Q My question is not fully answered as yet, because I also asked as to grams. A The amount of balls added -- let's see if I can remember. In actual production for pocketbook stock, in 100's it is six grams per pound, 150's is nine grams per pound, 187's twelve grams per pound, 250, on most runs, is 17 to 20.

Q You said it was six grams per pound on 100 caliper?

A No, I didn't. I started with 125, did I not?

Q You said 100. A I am sorry. It is 125, [114] 150, 187 and 250, the only four sizes that we make standard material.

Q And the grams per pound on the 125 caliper are what?

A Six, then nine.

Q Now, in all of these is the ball size the same? A In standard material, the ball size is all the same material.

Q Then I am correct, am I not, that in your standard production today, in the standard production today of U S Plastic Products Corporation, the weight of balls increases with the caliper?

A That is correct.

Q And the viscosity of the polymer increases with the caliper?

A That is correct.

Q So that on sheets of greatest thickness the weight of balls is the largest and the viscosity is the highest? A That is correct.

Q Whereas on the thinnest sheet, the weight of balls is the lowest and the viscosity is the lowest? A That is correct.

Q Why is that necessary? A On this particular type of sheeting where the manufacturer uses one, two or three calipers of a given type of material in a finished single article, the patterns must match. They must not only be of a similar size but also a [115] similar area, similar dimension, because they must look the same in the finished article. Therefore, it is adjusted to give exactly the same appearance as one of our controls.

Q Are these variations in number of grams per pound and in viscosity, depending on the plate thickness, necessary to produce the design effect? A No, sir. They are necessary only for control of design effect.

Q What temperature is used in the heating bath after the plate

has been poured, in your regular production? A That, once again, is an operating procedure. I don't think –

MR. LAWRENCE. Then you don't have to answer it if you don't want to.

A. I won't answer that That, I believe, is a direct operating procedure.

Q You have read the patent, of course, that is involved in this suit? A Yes, sir

Q Doesn't that patent say that temperature is one of the means of controlling the size and intensity of striation? A That is correct.

Q Is that true? A That is quite true

Q At column 3 of the patent, lines 27 and following, I find this sentence: "The control of the [116] design in the finished sheet as to size and intensity of striation, is a function of the pouring viscosity of base synthetic resin liquid and the temperature of the polymerization unit."

Do I understand that the control of the design then is a function of the correlation of viscosity and temperature? A That is one. There are several others.

Q What are those others? A The control size of the balls.

Q What is that? A The control size of the balls We are speaking now of a direct matched pattern, continuing our previous conversation; the amount of balls that is added to the various calipers.

plus the rapidity of the polymerization.

Q Ball size, amount of balls added, and what was the third? A And the rapidity of polymerization.

Q That is temperature, isn't it? A That is correct.

Q You were giving me the additional ones. A Then there are two other means, which I have already given you.

Q These are factors in the control? We've got first the viscosity and temperature. Those two are [117] mentioned in this sentence I just read from the patent. A That's right.

Q And I should read you the next sentence, which brings in ball size, and that sentence immediately following the one I just read is, and I quote: "The viscosity of the casting base is adjusted to ball size to control reproducible pattern."

Now, you say that is a third factor? A That is correct.

Q And that is related to viscosity, correct? A I have already testified as such.

Q I don't remember any such testimony, because didn't you say, Mr Porter, that the operation now carried out in the plaintiff's plant here regularly used a uniform ball size as illustrated in Exhibit 33? A That is correct. But I also testified that the amount of balls varied with the caliper of the sheets for a controlled pattern.

Q Very well. I am talking about ball size, now, not amount of balls. A Then please read the statement again.

Q This is from the patent, the second sentence: "The

viscosity of the casting base is adjusted to ball size to control reproducible pattern."

MR. LAWRENCE Suppose we show Mr Porter [118] a copy of the patent

MR. KENYON All right

A That has already been covered, because we have adjusted the viscosity for the controls as stated here, where you are using X in one, Y in another Z in the third and Z plus 1 in the fourth If I used a different size of balls, I would undoubtedly have an entirely different set of values for viscosity

Q Yes But, Mr. Porter, you have testified that the ball size now regularly used by the plaintiff is that illustrated in Exhibit 33, and that with the ball size fixed you use different quantities and different viscosities for each of these four caliper sizes you mentioned

A Then what, sir, is your question?

Q Is that not true? A Yes, sir

Q What I just said is perfectly true? A For a controlled, reproducable pattern

Q Now, are we to understand from this sentence I quoted from your patent, column 3, line 31, that the viscosity must be adjusted to ball size in order to control the reproducable pattern?

A That is absolutely correct

Q That is correct. And you have done that in arriving at the ball size illustrated in Exhibit 33? [119] A That is correct for this ball size, for controlled production We use the viscosities as

stated

Q Now, you did a considerable amount of experimenting before you arrived at this particular ball size didn't you? A That is correct.

Q And this particular ball size was arrived at as you might say by trial and error A That is correct

Q What is the ball size illustrated in Exhibit 33?

A Through 10 but not through 20

MR CARR No

THE WITNESS Is that what it was?

Q Will you give it to us as correctly as you possibly can? I want now to have the final figure and not guesses And if need be, we will take an adjournment until you can find out A It is through 20 and not through 40 Through 20 and not through 40 on standard material

Q When you say 20 or 40 you mean 20 mesh and 40 mesh? A That is correct

Q Now let me turn to the question of the weight of added balls per pound of syrup You have the patent before you and you say you have read it Do you find in it anything which deals with the question of the weight of design material to be added for different [120] calipers A After examining Only as stated with the 150 sheet as described in example 1 as to the exact amounts of addition

Q What part of the patent is that A This is column 2, line 43 Beads of the order of five grams per pound of methyl

methacrylate of approximately 20 mesh size will produce a pleasing mother-of-pearl pattern."

Q And what was the caliper of the sheet there referred to? A 150, line 38

Q And is there anything in the patent with reference to increasing the weight of beads per pound of syrup as the caliper increases? A (After examining) No, sir, I find none

Q How long has U S Plastic Products Corporation been selling this Schner Block 100 caliper material that you mentioned? A The first record of a production run I have is April 25, 1952

Q And in that production what was the caliper? A 100

Q What was the grams per pound of balls? A That run was fifteen grams per pound of balls through 20 mesh

Q And what was the viscosity? A I do not have it indicated here, sir

[121] Q That is not the same as the Schner Block material made today, is it? A All I can tell you on that, sir, is that that is the only record I have available in this particular laboratory notebook

Q On what? A On this formulation of Schner Block material

Q You are referring to what page? What page does this formulation appear on? A Okay on April 25, 1952

Q On page 68? A Page 68

Q Are there some other laboratory notebooks besides this one? A Yes, sir

Q And what are they? A They all date after this

Q Kept by you? A That is right

Q What do they date after, what time? A From August 20, 24, 1952, to the present time

Q Now, confining yourself to this notebook--

MR LAWRENCE You mean 1953?

THE WITNESS I mean 1953, to the present time.

Q Confining yourself to this notebook which is before you, you say the only reference to Schner-Block production is on page 68?

A Not the only reference. I said the only one that is marked okay to run.

[122] Q And that one involves, does it not, fifteen grams?

A Yes, sir, that is correct.

Q And that is not your current production for Schner-Block?

A I am not certain about that, sir.

Q You testified just a moment ago that the current production of Schner Block stock is 100 caliper using ten grams and Z plus 1 to Z plus 2 viscosity. A Then that is it.

Q Didn't you remember that you just so testified to that effect. A It so happens I just checked three other runs in here which are variations of that, sir.

Q Now, what is your present regular-- A Ten grams to 100.

Q Ten grams to 100 caliper. A That is correct.

Q This entry on page 68 refers to fifteen grams, does it not?

A That is correct.

Q Was there a production run for Schner-Block at fifteen grams? A There was.

Q And were there earlier tests using ten grams?

A Yes, sir.

Q There was one on April 1, was there not?

A There was one on March 28.

Q Using ten grams? A That is correct.

[123] Q Just look at that one on April 1, will you please What was the caliper? A 100 special

Q And how many grams were used per pound? A Ten grams

Q And what was the viscosity? A Z plus 1

Q That is substantially what your present production is today, is it not? A That is quite correct

Q Now, was any of that material supplied to Schner Block? A He probably received a sample of material, yes, as described in that sheet

Q How much of it was made? A It says a sheet. It says it was submitted as a sample It is indicated right there.

Q Then such a sample was submitted to Schner Block? A That is correct

Q On or about April 1 of 1952 A Yes. It would be probably two days later than that This was the date it was produced, that it was actually formulated

Q And did that material contain the balls? A Yes, sir.

Q Of the size indicated in Exhibit 33? A It is marked, sir, through 20 mesh, ten grams per pound

[124] Q That, then, is this material in Exhibit 33? A No

Q What was— A I am sorry, yes, through 20, that is correct.

Q Then the material that was made for Schner Block on April 1, 1952, was made by letting balls like those in Exhibit 33 settle down by gravity in the syrup while it was hardening? A That is correct

Q And you got a design, striation effect from that? A That is correct

Q Was your company at that time using that process on any other production? A That, sir, I can't tell you offhand from the records I have here That would have to come from the office itself.

Q Will you refer, please to page 75 of your notebook before you, and I will ask you to describe the test which is there referred to in the lower half of the page in connection with some Schner-Block test sheets. Are those entries in your handwriting? A Yes, sir.

Q Did you make the tests there described? A Yes, sir

Q What was the date of the tests? A June 5, 1952

Q Will you describe those tests, if you please? [125]

A As indicated in the book, two previous runs of material had bubbled completely and were 100 per cent scrap, for no apparent reason So two tests were run using various sizes of balls, 1 through 20, and the other through the 20 screen, oven dried for eight hours to assure complete dryness The results were that the tests proved that excessive moisture causes bubbles and that an excess of balls was the greatest contributing factor to the poor production runs I read the record from the laboratory book.

Q Now, how did you find out that an excess of balls was the greatest contributing factor to poor production runs? A By trial and error, once again.

Q And what did you find out in that regard? A In this type of production where the material is added manually, the manual stirring introduces to the syrup air in the form of bubbles The more that you have to mix in above the required amount, the more air you also stir into the mixture after the syrup has been evacuated for pouring Those bubbles become trapped and result in bubbles in the finished sheet, which spoils the production It is possible to produce sheeting with as high as 50 grams of balls per pounds, and you will

obtain a design, but you will also obtain a sheet that is total scrap for bubbles.

[126] Q Now, what lesson does that point to? A That there was a definite breaking point for this type of designing material as to the amount that we could use and obtain consistent results with.

Q By "this type of design material," you are speaking of the balls? A I am speaking of the balls as used by U. S. Plastic Products.

Q In Exhibit 33? A In Exhibit 33.

Q And what is that top limit, or breaking point, as you call it? A That, sir, I don't know I can't tell you offhand.

Q Without being able to state exactly what the point is, can you give illustrations of an amount of balls which will work and produce salable sheets and an amount of balls as ascertained by you that will not produce a salable sheet? A Once again, sir, our conversation as far as design sheeting has been concerned has been about a controlled design sheet of a given dimension and given area. We vary that by our controls, depending upon the customer and the end use

Q I haven't got an answer to my question A I can't give you an answer to your question.

Q Well, now, let's see if you can An excess of balls, as you have testified, was the greatest contributing factor to a poor production run. [127] A That is correct.

Q That factor is stated in your notebook in your handwriting, is that correct? A That is correct.

Q Under date of June 5, 1952, is that right? A That is correct.

Q What did you mean by an excess when you wrote those words in your notebook? A An excess over and above what our

normal material was

Q Now, that is the point. What was your normal material and what was an excess? A As indicated previously in a 125 —

Q Can t you answer my question directly? A No, I have to think back and remember what the amounts are, sir, that we put in standard type of material today. That has varied practically none since it was established

This material is 100, made special and produced for no one else or at no other time except for Schner-Block; and it required a special type of formulation to obtain the desired effect that he wanted to have

Q Well, what type of formulation? Let s get our feet on the ground. A Actually we had to put in a larger amount of balls to draw the pattern together.

Q Larger than what? A Larger than what [128] we would use in the nearest comparable sheet, which would be 125. We made no other 100 s.

Q At that time when making 125 caliper sheet, what was the weight of balls you put in it? A 125, I believe I stated, takes —

Q You testified a little while ago that you are currently using six grams of balls in a 125 sheet A All right In 125 we are using —

Q My question now relates back to that time. A We are using six grams of balls But for the other sheets, that has varied a little.

Q Let s stick, then, with the 125 caliper A Proportionately, then, if we were to produce a normal 100, then the indications from the additions in the other sheets would be that it would be less than six, because as the caliper increases, we add more balls.

Q And as it decreases, you add less balls? A Under normal circumstances. But —

Q Now y u are down to a sheet having a caliper thinner than anything in regular production? A That is correct.

Q And your experience would have indicated a lesser grams per pound of balls? A That is correct. If we were to attempt to produce sheeting equivalent in pattern to what we were doing as standard But Schner-Block [129] required a special type of pattern, and through experimentation it was found that the increased viscosity with the increased amount of balls produced a pattern that he desired. So in this particular type of sheeting we add many more balls than is actually normal for sheeting that would go any other customer.

Q Now, what would you regard as the normal number of grams of balls in a sheet of 100 caliper? A If I answer that, I am only guessing, because we do not produce it as such Our lightest caliper is 125 in standard material.

Q And for that the grams is six? A For that the grams is six, correct

Q And for 150 the grams is nine? A Yes

Q And for 187 the grams is twelve? A That is correct.

Q And for 250 the grams is 17 to 20? A That is correct

Q Now, figuring backwards, can you tell us as an expert in this art what that would normally indicate as the number of grams to go in 100 caliper? A By progression, it would be about four.

Q About four? A That is right.

Q For this special effect that Schner-Block required, you felt it necessary to use something more [130] than four in 100 caliper sheeting for that customer? A I didn't feel it necessary, sir.

By trial and error we found that it was necessary for the type of pattern he desired.

Q And so you put ten grams into his 100 caliper material?

A That is correct

Q And the reason for that was what? A That he desires a very closely knit pattern, because his final product is only three-eights of an inch in dimension and he wished to have a section of design in every blank that he produced from that sheet.

Q And he took ten grams to do that? A That is right.

Q But you did find out that if you went much over ten, you got poor production runs, didn't you? A As indicated by the fact that we had two scrap runs because the balls --

Q Now, answer my question.

(Pending question read by the reporter)

A At this particular date, yes.

Q I am referring now to June of 1952. A That is correct.

Q Which was the tests recorded on page 75 of your notebook?

A That is correct.

Q Now, how far over ten did you find poor [131] production runs? A As indicated -- it doesn't show, sir

Q But do you remember? A No, sir, I do not remember.

Q But you do, however, recall that when the figure got too high you got a poor production run? A Yes, sir, that is correct.

Q You are quite clear on that? A But --

Q You are quite clear on that? A As indicated by the tests up to this point But this test also indicated that a lot of the trouble when you went over a given amount of balls was due to excess

moisture in the balls themselves, and was not a function of the exact amount that you put in but a detriment in the material itself, which was corrected. I can produce a pattern today with 100 grams of balls. It will have a pattern

Q Will it be a poor production run? A It will not be acceptable to any customer that we know of. I could make a production run and have it good with that amount in, but where would you sell it? What would we do with it? It has no end use

Q Would you call a process useful which produces something that has no end use and that no customer would take? A Would I call it useful?

[132] Q Yes A No But you can take a process and make variations of the same.

Q Now, ordinarily in your production at U S Plastic Products the design medium is cold loaded, is it not? A That is correct.

Q And what is the procedure used to bring these balls into dispersion through the syrup?

MR LAWRENCE Are you talking about the present production method?

MR. KENYON Present day practice

MR LAWRENCE You don t have to answer that if you don t want to. He is asking you a question about the patented method. It is up to you whether you want to answer the question or not.

A That is also completely covered by the former deposition, completely so.

Q Would you answer the question, please? A So there is no reason why it can t be answered again. The material is taken -

the pearl methacrylate prepolymerized syrup is taken from the kettle, evacuated in a container, a definite precalculated amount is poured into another container, to which the designing medium which has been preweighted is added, stirred by hand until it is thoroughly wetted, which takes about [133] thirty seconds to a minute, to blend it in the material in the container; then that is poured directly as is to the cell.

Q Is that what you call the blending procedure?

A I don't understand "blending," sir.

Q Do you use any power instrumentality to get the powder dispersed through the liquid medium? A None whatsoever It is done with a stirring rod by hand.

Q Now, you told us yesterday that the only materials you had found that will act as a design producing medium are acrylic resins of very low molecular weight and certain soft vinyls, vinyl resins.

A That is correct.

Q Is that the complete list of the materials that you found suitable for this gravity process of yours? A No, sir We were speaking yesterday of material as produced by U S Plastic for consumption on the market today

Q Will you now tell me what materials you know of that will work in this process? A Sir, anything that will fall by gravity will create a design

Q Including abalone shell? A Yes, sir. It creates a tracer pattern in the sheet which you can definitely call a design. But it has no end use, again [134] As stated yesterday, those are the only things we know of at the present time that permit us to produce and sell reproducable controlled resulting sheets

Q That is the low molecular weight acrylic – A No, the

compatible materials It so happens our production is low molecular weight.

Q Well now, I want to go over once again with you this list, but I would like first to define what it is I am going to ask you to enumerate What I am asking you to enumerate are the materials which, when introduced into a pearl syrup, pearl-containing syrup, will, under the influence of gravity while the syrup is setting, produce a pattern that is salable and that has a useful function in the market.

Now, what are the materials that you have found that will answer that requirement? A I can only answer that on the basis of what we do and sell today, because that is what we produce We use a designing medium from a compatible methyl methacrylate emulsion-produced molding powder which gives us a controlled reproducable pattern by hundreds of sheets

Q This is the material of low molecular weight? A As indicated by Exhibit 33.

Q You do, however, know of at least one other, [135] even though you don't use it, and that is a softened vinyl resin?

A Where we can control the pattern. That is correct. But we also know of as high as twenty different types of methyl methacrylate molding powders, compatible methacrylate pieces that will make sheeting, but they are not comparable market-wise to the material that we produce on production today

Q Very good. Will you name the twenty, please?

A With what we have learned since we have started with this material

Q Just name the twenty, please I don't want anything else, please, until we have that question answered. A Particles of methacrylate, any listings of methacrylate molding powders, of which

Rohm & Haas produces about eight and duPont produces — I don't know, about six or seven. All can be made by adjusting controls to produce a pattern.

Q That completes your list? A That will roughly hit twenty, if I am not mistaken, and eight and six are fourteen.

Q What about Lucite-41 methyl methacrylate polymer?

MR. LAWRENCE. Do you know what that is?

THE WITNESS. I don't even know what that is by that name

[136] Q I show you a pamphlet bearing the name of DuPont, Polychemicals Department, which is descriptive of their methy methacrylate polymer called Lucite-41, and ask you if that refreshes your recollection? A I think, sir, holding that question in abeyance for the moment, if you will permit me, I think I can answer what you are going to ask. With the knowledge that we have obtained in running this material over a definite period of time with additional laboratory work that we have developed, I can say and say accurately I will take any compatible methacrylate material — any — and after a few tests, produce sheeting with that material that is salable. Does that answer your question?

Q Have you ever bought or used or tested the material known as Lucite-41? A No, sir.

Q Have you ever bought that material under another name?

MR. LAWRENCE: Do you know what that material is?

THE WITNESS: No, sir, I don't know any of their polymers by these number designations that they have now. But, sir, that doesn't make any difference. As long as the material is compatible, I can work it. That is the only requirement. As long as it is methyl [137] methacrylate in basic construction.

Q Do you recall having used a material called H-7500?
A H-7500 is clear acrylic That I do remember
Q You have used that A That is produced by everyone, yes, sir That is cast sheeting H-7500 is cast sheeting, clear acrylic
Q Polymer A Yes, sir, it is polymer, but it is in sheet form, unless they have changed their designation lately H-7500 was cast acrylic clear, known as Lucite.
Q What about silicons Have you tried them as a design forming medium A The silicons that we have been able to obtain as silicons and intermediates are liquids. They don't work. Basic work with silicons has nothing to do with design sheeting.
Q Have you ever tried silicons A Yes
Q As a designing medium in your process? A No, sir. No, sir, because we know that it doesn't work We have attempted to use it for other means, but not for design sheeting
Q Did you ever hear of a material called H-7500? A As I so stated, sir, when I knew the 7500 series of numbers produced by duPont, H-7500 was cast clear acrylic.
[138] Q And what was C-7500? A At that time there was no C-7500. I don't know what that is That may be a new terminology or new designation since I knew that list
Q Have you never been familiar with C-7500 at any time?
A No, sir, I don't recall even having seen it
Q What about a powder called H-7500? A I didn't know of a powder called H-7500 At that time their molding powders, 7500 was a designation for clear, but their molding powders ran in a series of 102 to 122, up as high as 146 at the time I had occasion to know them

Q Now, coming back to the material that you say you can use in this process, this gravity process, you say that you can use almost any particles of methyl methacrylate, is that right? A With the knowledge that we have obtained, we have learned how to handle practically any compatible material of methacrylate.

Q And what knowledge is that that you are referring to? A By series of controls that were developed over a period of time in producing the sheeting.

Q And what are those controls? A Actually it is the control of the viscosity and the control of your polymerization time, which was knowledge that was [139] gained through trial and error over a period of time.

Q A good deal of that is in this notebook? A A good deal of it is in here, yes. Trial and error, producing various results.

Q Now, compatibility is something also that has to be determined by trial and error, doesn't it? A No, sir.

Q Why not? A Well, the knowledge of various types of materials will tell you without even trying whether or not they are compatible with methacrylate.

Q Do you find in your patent any reference to this question of compatibility? A Yes, because anything that is compatible is also soluble When you speak of one, you are speaking of both.

Q Does rate of solubility enter into it? A Yes, it does.

Q In what way? A Actually the length of your pattern is controlled by your rate of solubility Once again, in speaking of terms like this, we are speaking of a controlled pattern that is acceptable by the market as we are producing it.

Q If solubility is the key to compatibility, as you testified a moment ago, did you not – A I said that is one and the same.

[140] Q (Continuing) - then how does rate of solubility enter into it? A Well, the rate of solubility will control the length of your pattern.

Q So if there is any solubility at all, you will then get a pattern? A Yes, you will definitely get a pattern.

Q And if there is no solubility at all, you will not get a pattern? A No, I didn't say that.

Q What is the fact? A We are speaking now of a controlled pattern. You can have no solubility at all and drop the entire length of the sheet and produce a pattern that is good for nothing. You can take an absolutely inert material and make a pattern. But it has no end use. Once again, we are speaking of a reproducable, controlled pattern, which is something entirely different.

Q And that means selecting a material which has a suitable rate of solubility? A That is correct.

Q How do you determine the suitable rate of solubility?

A Once again, by trial and error. What we use is what we have found to be the easiest material to control. But we can control, if necessary, any compatible methacrylate material.

Q And when you say "we can control," you refer to—

A To U. S. Plastic.

[141] Q To the experience and knowledge that has been built up in your organization? A That is correct.

Q And when you speak of the experiment by trial and error, you refer to the trials and the errors that have been made in the experiments by U. S. Plastic Products Corporation? A No, that isn't quite correct. If I had a totally unknown type of methacrylate I would then be required to run experiments to find out what its reaction would be. Normally I would start as we produce it today and see

what the result would be, and then vary the controls from there until I got the reproducable pattern. I would undoubtedly not get it the first time.

Q And you have made experiments in which you didn't get it the first time? A Definitely; quite a few of them.

Q And those were made when you were working for U S Plastic Products Corporation? A That is correct.

Q And the results of that are shown in this notebook? A In this and in later –

Q Other notebooks? A Yes.

Q Now, taking all those notebooks together as an aggregate, plus your skill and knowledge as an interpreter of them, you can put the whole thing together [142] and for any particular thickness of material or type of design you can say what should be used to get the desired result? A After experimenting. As I stated before, after a series of tests I can take any compatible methacrylate and produce a reproducable sheet.

Q Yes. But to get the compatible methacrylate, you have got to find something which has a suitable rate of solubility? A Not necessarily. When I speak of a suitable rate of solubility, we are speaking of what we use today, which is standard procedure. If I take another type of methacrylate –

Q Standard procedure? What do you mean by that? A We are speaking of our operation today. We have a standard procedure that is followed in the plant for producing a reproducable sheet.

Q That is the procedure you have found by trial and error? A With this designing medium I have been very careful to indicate that all the way through. With this type of designing material we

have set up standard procedures for operation in the plant I can take any compatible methacrylate material and use it as a designing medium by adjusting the controls that are used for the production of this sheeting. That doesn t mean that I can produce it exactly the same way I am producing this

[143] Q Now, all your experience has been with a ball shaped or spheroidal particle, has it not? A That is not so.

Q When did you commence experiments with something else? A I have used all types of crystals, all types of inert earths, pieces of glass, pieces of vinyl --

Q And when did you get a salable product? A Well, that, sir, I don't know offhand, when we sold our first sheeting. The first controlled sheeting that we sold at U. S Plastics, I don't know the date. But that is when we had something that we knew we could reproduce, and that date I don t know.

Q We will come back to that date in just a moment, Mr. Porter. What was the name of that first customer? A As I recall, the first test sheet went to Hand Bag In fact, the whole series of test sheets that we produced for months after that went to Hand Bag

Q You mean Hand Bag Specialties, Inc? A That is right.

Q I show you a copy of an invoice with attached bill of lading of U. S. Plastic Products Corporation to Hand Bag Metal Specialties, Inc., 443 West 41st Street, New York, in New York, dated November 2, 1951, and ask you if you can identify that paper? A (After [144] examining) Yes, sir It is a bill of lading for a shipment from U .S. Plastic to Hand Bag Specialties

Q Of what material? A Six sheets of white pearl 150

and two sheets of black design, gun metal

Q Did you have anything to do with making that material?

A I would definitely have something to do with the black design.

Q Did you do so? A Yes, sir

Q When? A It would have to be within a period of three days prior to November 2, 1951

Q What was the material? A I don't know, sir It is not indicated It was two sheets of black design, but what it was I don't know.

Q You have no knowledge of that thing whatsoever? A No, sir It would be a smoke design sheet, that is all I can tell you

Q You made it? A I undoubtedly – yes, I made it,

Q How was it made? A All I can tell you about that, sir, is the way that we have always made them, by taking a given amount of methacrylate prepolymerized syrup containing pearl, stirring into it an additive of the designing medium and pouring it into a sheet It is standard procedure That doesn't vary

Q Does your notebook contain any reference to [145] this production? A I don't know sir

Q Will you please see if it does? A (After examining) Yes, sir it does, November 30, Hand Bag 150 smoked pearl, using two grams of Claremont black, CB acryloid base

Q Does it tell how much design medium was used?

A No, sir, it does not

Q Or what medium? A No, sir, it does not.

Q It was made, then, when? A November 30, 1951

Q I find some difficulty in understanding how anything made on November 30 could have been sold on November 2 Can you clear me up? A I am sorry, then, it isn't the right one I

misunderstood.

No, sir, I have nothing on it in the notebook.

Q Then where was it made? A In the laboratory, unquestionably.

Q Without the making of any entry? A That can happen very easily, sir, where you are making a standard color in a smooth pearl and the customer desires to see it in a design pearl. You would take syrup that was already prepared for smooth pearl and merely place your additive and cast a sheet. It can happen every day in the week.

Q What was the factory making at that time? [.'6]

A Smooth pearl.

Q Downstairs? A Yes, sir.

Q Is it not possible that this production, these sheets, were made downstairs in the factory? A No, sir, it is entirely impossible, because there was nothing made for production at that time.

Q Who was in charge of the factory downstairs at that time?

A Mr. Jack Aleshnick.

Q Well, doesn't he claim to be one of the joint inventors of this idea with you? A No, sir.

Q Wasn't his name originally put on some of the patent papers? A Yes, sir, because he also -- which is another thing we do with every patent. He has knowledge of it the same as I have. We both make a writing, and we pick the pertinent facts from both. He happens to be a graduate chemist. That is standard procedure in any company.

Q And yet you say it is impossible that he should have made this material downstairs in the factory? A It is quite impossible, because there were only he and I that weighed the balls at that time.

for the amount of material that went in They were prepared, weighed in the laboratory, taken downstairs in small bottles — in fact, it is still done that way today, except because of the volume an operator does it, but they are prepared [147] by small bottles

Q At that time you and he — and by "at that time" I mean at or about the date of this invoice, November 2, 1951 — you tell me that at that time you and Aleshnick were the only two in the place who knew about the use of these balls, is that right? A No, sir, that is not correct

Q What is the fact? A They are the only two in there that knew of the use of the amounts of the balls. Anybody would be able to see what we were using, a spheroid type of material

Q So he knew the amount of balls that would produce this gravity effect? A That is correct, he did

Q And you knew that? A That is correct.

Q And you certainly agree with me that the two or eight or whatever it is sheets shown by this invoice were made somewhere in the factory shortly prior to November 2, 1951? A That is correct

Q You agree to that? A I agree with that

Q You say it was made in the laboratory? A No, I say it was prepared in the laboratory

Q What was prepared in the laboratory? A The balls and the syrup, the weights of the syrup. If it was full size sheeting as indicated there, it had [148] to be poured downstairs and placed in a tank downstairs. But the preparation is done upstairs in the laboratory.

Q And then the syrup was carried downstairs? A That is correct, and poured in full sized sheeting plates and full sized tank, because my tank in the laboratory only accommodates sheeting 24 by 24

Q How big sheeting is accommodated downstairs?

A 42 by 52 is our standard casting.

Q And are the sheets covered by this invoice of that last size named? A I don't know, sir It is stated here Yes, you can tell by the weight

Q So these were actually cast downstairs in the factory?

A That is correct

Q Then this impossibility that you were speaking of had reference to what? You said that it was impossible that something should have happened down in the factory A Impossible that what should have happened?

Q You used the word "impossible" in reference to something happening downstairs in the factory, and I want to clear up what you had reference to Don't you remember that? A No, sir I am sorry, it escapes me Could we check it?

Q Let it go The material for Hand Bag Metal Specialties, Inc , referred to on this invoice, has been [149] produced for them since that date, has it not? A Similar material, yes, sir

Q That is, design pearl material A Yes, sir.

Q In what way has the material produced since that time differed from the material made on this order of November 2, 1951?

A That, sir, I couldn't answer I don't know, as I have no recollection of what the sheeting looked like All it says there is that it was gun metal We don't even make gun metal, we make smoke, which is an entirely different color

Q Is the caliper given? Can you tell us the caliper from the weight here? A I believe it would say 150 does it not? Does it not say there?

Q You look at it and tell me, please A (After

examining) I say, sir, that it is 150, because that is the only material that he uses. That is the lightest material that he uses, and the indications are by the weight, although the first one calls for six sheets of 150. They were only partial sheets because the total weight is only thirty pounds. On this the weight is twenty pounds for two sheets, which indicates that it is a 150.

MR. KENYON: I would like to have these photostats, one comprising the invoice of [150] November 2, 1951, addressed to Hand Bag Metal Specialties, Inc.; the other attached to it being a bill of lading addressed to the same party and bearing the same date, to be marked as Exhibit 36.

(Marked Defendant's Exhibits 36A and 36B for identification)

Q What is your position over there today in U. S. Plastic Products Corporation? A I work development and technical sales.

Q Do you have a laboratory? A Yes, sir.

Q Where is that located physically? A On the second floor of the building to the rear.

Q Where is the factory? A Downstairs and to the front.

Q That is where the casting sales are and that sort of thing? A That is right.

Q And the procedure of the factory, as I understand it, is to make up the syrup with the material in it that is to be stirred in, and then that is poured into the cells, is that correct? A I don't quite follow you, sir.

Q Would you describe to me in brief the— A The factory makes the standard syrup containing the pearl, which is taken out and evacuated in a container, [151] then a specific amount is poured into another container, at which point the additive is then placed in and stirred by hand.

Q You call it the additive? A That is right

Q And then it is put in the cell? A Then it is poured directly to the cell from that container.

Q Now, where is the monomer made up? A In another section. The monomer is made up, or the syrup?

Q The monomer. A The monomer is made up in a separate plant, a separate building entirely, which would be to the south of the casting plant.

Q Then it is brought over into this room, this factory room? A In drums.

Q Then where is the syrup made up? A In a syrup room, which is a separate room to the east of the casting room, which would be the front of the building.

Q Is that under Mr. Aleshnick? A He is superintendent of the plant. He is in charge of the entire operation from beginning to end.

Q This syrup I haven't got clearly in mind That is the monomer containing both pearl and additive? A No That is the monomer containing the pearl, which [152] is prepolymerized to a partial polymer, like a heavy molasses

Q That is done in the syrup? A That is done in the syrup.

Q And then where is the additive added? A On the casting floor, which is out in the other main casting room where the sheets are poured.

Q Just before pouring? A That is correct.

Q What is it that is added? A The designing medium, as in Exhibit 33.

Q And it is in the form of a suspension in some liquid?

A No, sir it is dry. It just is like that, and poured directly into the syrup and stirred under the surface of the syrup by hand

Q Just poured in dry? A Poured in dry It is delivered to the casting floor preweighed in bottles, one pint bottles.

Q Holding the right amount? A Holding the correct amount for whatever size sheet is being poured

Q Where is that weighed out and measured out? A At the present time that is done by a single operator in the room directly under the laboratory on the operating floor She prepares -- it is a girl, and she prepares all the bottles that are going to be used [153] for that day

Q Now, was that ever done in the laboratory? A Yes, sir, it was for months We weighed them until the business grew so large in this particular type of material that it was no longer feasible for us to tie up the laboratory for straight weighings Then an operator was put on and the procedure set up as such

Q Now, you say "for months" implying, I take it, quite a long period of time that that was done in the laboratory? A Over a long period of time yes, sir

Q The weighing out of the balls was done in the laboratory? A It was a strictly laboratory controlled preparation

Q And when did that begin? What would you say was the first time that they did that in the laboratory for a production run downstairs? A That, sir, I can't tell you, because we prepared everything, whether it was for an individual sheet, five sheets or a run That, sir, I wouldn't know

Q Well, we do know, do we not, that that was done in connection with this sale of two sheets to the Hand Bag Metal Specialties shown on Exhibit 36? A That is correct The weighing would

have to have been made in the laboratory.

[154] Q The balls were weighed in the laboratory and taken downstairs for the production shown on Exhibit 36? A Yes, sir, I would imagine that to be the procedure. I don't remember exactly, but that would be the procedure for that type of work.

Q Now, I show you another copy

MR. KENYON. Perhaps first I will have it marked as an exhibit. I will ask that a copy of an invoice with attached bill of lading addressed to Hand Bag Specialties, Hand Bag Metal Specialties, Inc., dated November 21, 1951, being invoice number 547, be marked for identification as 37B and C

(Marked Defendant's Exhibits 37B and 37C for identification.)

Q I show you Exhibit 37 and ask you to tell us what that is. A This is an invoice indicating a shipment from U S Plastic Products to Hand Bag Metal Specialties, Inc

Q And what was the material shipped? A As indicated by this, it was fifteen sheets of 150 design pearl sheeting, totalling 164 pounds.

Q Did you have anything to do with the making of that material? A I unquestionably weighed the balls for this material

[155] Q Was that material made by the process that we have been talking about here in this case? A Yes, sir

Q The process of your patent? A Yes, sir

Q And what was the date of that shipment?

A November 21, 1951

Q I am going to show you a series of copies of similar invoices which, to speed this up, I will refer to merely by their invoice numbers, and my question will be after I have read this.

whether each of these shipments included sheets that had been made by the process described in your patent A With this understanding, sir I will identify them as such from these reports But I have nothing to do with shipping or the keeping of these records I will identify them as such from these records

Q Well I take it that at that time you did have a good deal to do with the production of this new item A With production but nothing with shipping

Q It is production, then, that is my question, really to you The invoices that I have here which I will not attempt to mark -- perhaps they could be marked as a group - are invoice number 553 of November 27 1951; number 581 of December 17 1951; number 594 of December 20, 1951, number 608 of January 4, 1952; number 617 of [156] January 11, 1952; number 637 of January 18 1952 --

MR LAWRENCE Can't we just put the batch of them in? Plaintiffs furnished them to you under a request to produce so we aren't going to deny that they are in existence

MR KENYON My question is not with regard to the existence of the invoices but to the question of whether the patented process was employed in the manufacture of the material to which these invoices relate.

Q Perhaps the simplest thing would be if I hand you these invoices A Either that, or if they all contain something containing design pearl

Q That is my question There may be other things, but I am not interested in it A If each invoice contains something to do with design pearl, then definitely I had something to do with it, under the patent in suit

Q And on or about the date of this invoice? A That is

correct

Q Would you just check them through, then?

A (Complying)

Q In looking at these, Mr Porter I notice they run past April of 1952 Will you stop your examination of them at April 1952 and we will not put the rest of [157] them to you A Not past April?

Q Not past April 8 of 1952 A (Complying)

MR KENYON The witness has handed me a number, perhaps ten or fifteen, of these copies. Now, I will ask that these be marked as a group for present purposes We will use them in more detail later They bear the numbers put on in photostating them from number 6 consecutively through number 73. Apparently in each case several documents make up the individual transaction or evidence the individual transaction

Q Now, taking those transactions as a group, then, I understand that in each case designed pearl sheeting was sold to this customer and that you testify that the sheeting covered by the invoice was made by or under your supervision, by you or under your supervision, and that it was in accordance with the process of this patent?

A That is correct I at least personally would have had the chore of preparing the designing medium for those sheets that were produced

MR KENYON I will call this entire thing Exhibit 38

(Marked Defendant's Exhibit 38 for identification)

[158] Q Mr Porter, I show you a similar group of photostat copies of the original documents, the original documents having been produced for our inspection by the plaintiff in this action The photostats I now show you are those bearing numbers 225 to 280, these

purporting to be copies of -- I will ask you if you will just describe briefly for the record what they are A (After examining) These are records of orders plus copies of the uniform bill of lading shipping tickets, for shipments from U S Plastic, all to the same place

Q And what is the place? A Jewel Plastic

Q Just give the name and address of the customer in full A To Jewel Plastic, 158 160 West 22nd Street, New York City

Q Do you find that designed pearl sheeting was an item on at least each of those bills? A All but one, sir That is evidently in there by error

Q We have eliminated, then photostats numbers 259 and 260 A That is correct

Q With that exception, then, your answer to that question is yes? A Yes, sir

Q Were these sheets made by you or under your supervision? A That is correct, sir

[159] Q And were they made in accordance with the method of this patent A Yes, sir they were

Q On or about the date of the invoices? A That is correct

Q So that taking - A Not on or before, sir, it would have to be at least three days prior to because you can't make and ship the same day

Q So that, for example, and I pick only the top one, the top one is invoice number 696, photostat number 255, bearing date February 19, 1952 and covering four sheets 150 caliper pearl-acrylic When would you say that was manufactured? A Either the 16th or 17th

Q Of that same month A That is correct

Q And so approximately for the others? A That is correct

MR KENYON I now ask that this group of invoice copies be marked for identification

(Marked Defendant's Exhibit 39 for identification)

Q I show you a third group of invoice copies and ask if you can identify those A They are once again copies of orders plus bill of lading shipping tickets for deliveries of sheeting from U S Plastic to Rialto Button & Wood Products 583 Broadway, New York [160] New York

Q Do you find that each of those invoices covers one or more sheets of design pearl material? A Yes, sir

Q And was that made by you or under your supervision? A Yes, sir

Q And was it made by means of the process in the patent? A Yes, sir

Q Was it made in each case a few days prior to the date of the document itself? A That is correct, sir.

MR KENYON I now ask to have marked for identification this group of copies, documents identified by the witness identified by photostat numbers 364 to 377 the earliest bearing date February 12 1952 and the last bearing date April 9 of 1952

(Marked Defendant's Exhibit 40 for identification)

Q The names of these four customers are familiar names to you, are they not? A Three, sir

MR LAWRENCE Three customers

Q I am sorry A Yes, sir

Q Since the date of these invoices, U S Plastic Products Corporation had a large business in design [161] pearl sheeting with

each of them, has it not? A That is correct.

Q The business has, in fact, grown with each of them since the invoices shown here? A That is correct.

Q In each case this was the beginning of a steady selling relationship? A That is correct.

. . . .

[Page 172, line 6 - Page 174, line 9]

Q I take it you yourself did not develop the method of making the material of Exhibit 33? A No, sir not the method of making it I developed variations of it for controlled ball sizes

Q. You found a use for it? A No, that isn't what I said

Q Well, isn't that true? You found something -- A The original material was made for another specific end use After we learned that it would give us a controlled pattern Then the development of control size in its manufacture was a later development than that

Q What is that other use that it was originally used for? A It was made for dental plates

Q You mean for molding A That's right, for molding dental plates and teeth

Q In some kind of injection or compression molding machine? A Compression, sir

Q It was made to be a compression molding powder? A And hundreds of thousands of pounds of it was sold as such

[173] Q Still in use? A Still in use

Q You, then, have found another use for this material? A That is correct

Q And that is what you were talking about in the sentence that I just read you from this memorandum? A I am slow this

morning. Would you read it?

Q I will reread the sentence It is right before you just below the X mark. A (After examining) That is correct

Q But was it merely taking something ready to your hand, or did you have to develop it further, this material? A We had to develop — that material was made just as such in a very fine type of polymer for dental plates, where they make a dough mixture with monomer and cast a dental plate The fact that the formulation gave appearance of complete dissipation, solubility in the cell, we then went to work to increase the size to give us a size ball where we could control the pattern, because in dental form as such, which is very fine material, you cannot control the pattern from run to run That is why your mesh sizes are given

Q Now, was it necessary to develop this material further in order to adapt it to this design process? A It most certainly was, to the tune of about 2500 pounds of scrap in trying to adjust formulations to [174] produce this material, because we are one of the few people who make an atmospheric type of polymer

Q And the 2500 pounds of scrap was the result of tests to try to make a material for this gravity — A To make a controlled size of batch formulation In other words, so that predominantly when you finished your run you would get a size of sphere that you wanted to use, and that is done by adjusting the formulation of the material in your emulsion polymerization process

* * *

[Page 183, line 6 - Page 184, line 8]

CROSS EXAMINATION BY MR LAWRENCE

Q Mr Porter, I show you the invoices which are marked D-38, 39 and 40 and ask you if now at the moment you know the

process by which each sheet of design pearl sheeting represented by those invoices was made A No, it is entirely possible that there are variations in run to run and sheet to sheet, because this is an entirely new material on the market

Q You were changing your process at that time from time to time? A That is right and making variations in controls.

MR LAWRENCE All right

REDIRECT EXAMINATION BY MR KENYON

Q When you say variations in controls, you mean variations in weight of balls, variation in viscosity, and the other --

A And casting cycles

Q And the other controls which you have mentioned here?

A That is correct

Q As being the ones that give differences in the design effect?

A That is correct

[184] Q You don't mean that there was any change so great that it was no longer the patented process? A No, sir, I do not mean that

Q You are quite certain that it was the patented process in each case? A I would say in the larger volume of it, it was a process similar to that disclosed in the patent, with variations in controls

MR KENYON That is all

[The following is from the depositions of Leo Wagner and George DeMarco, taken July 20, 1954]

[Page 2, line 1 - Page 17, line 22]

L E O W A G N E R , called as a witness in behalf of the Plaintiff, being duly sworn, testified as follows .

DIRECT EXAMINATION BY MR LAWRENCE

Q Where do you reside Mr Wagner? A 2135 Ford Street, Brooklyn, New York

Q Are you connected with the defendant in this case? A Yes

Q What is your connection with the defendant? A Well, I am an officer of the corporation .

Q What office do you hold? A Vice President

Q Now, who are the officers of the defendant? A I think Bernard Ackerman is one, I think he is President -- do you mind if I look at a slip?

Q No, quite all right A Bernard Ackerman is President of the corporation

Q And you are Vice President? A That's right.

Q Who are the other officers? A Martin E Jay is Secretary and Treasurer

Q Does Mr Ackerman take an active part in the business of the company? A No

Q Are you primarily responsible for the operation of the business? A That's right

Q Now, are there any other companies working in conjunction with the defendant corporation? A Well, I don't know what you mean by --

[3] Q The Monoplast Company A They don't work in

conjunction with us; they sell the material.

Q What material does Monoplast Company sell?

A Methyl methacrylate monomer.

Q Now, where is the office of the Monoplast Corporation? Is that the correct name of the company? A That's right. 33 Avenue P, Newark.

Q Is that the same office as the defendant corporation?

A It is not the same office, the two are separate, although it has the same number. There are a group of buildings, about 30 buildings, that have the same number on Avenue P.

Q But the Monoplast Company has an office that is in a separate building from the defendant corporation? A That's right.

Q Now, what is the business in which the defendant corporation is engaged? A Which corporation are you talking about?

Q The defendant corporation. A In the making of cast sheeting, acrylic sheeting

Q What kind of sheeting? A Acrylic

Q Do you have various departments in your plant here in Newark? A I wouldn't call it various departments.

Q Is there a division of your operation, different departments or sections, or would you consider it all one operation? A More or less all one operation, I imagine.

[4] Q Do you have a foreman, a production foreman down there? A Yes.

Q Who is the production foreman? A George DeMarco.

Q How many employees do you have down there engaged in production? A Twelve.

Q Do you have other office employees besides those twelve production employees? A Yes, one; there wouldn't be anybody

in the office

Q Now, you say you manufacture acrylic plastic sheets?

A Yes

Q Now, what types of acrylic sheets do you make?

A We make pearl sheeting; we make colored sheeting; we make rods, acrylic rods, and that about covers all of it -- two tone material

Q Is that something like what you make (handing witness sample)? A We don't make this; we make pearl sheeting but it doesn't look like this

Q Is that something like what you make? A This looks more like our material (subsequently marked Exh P 2)

MR LAWRENCE Mark those in evidence, please

(First sample marked Exhibit P-1 in evidence; and second sample marked Exhibit P 2 in evidence)

Q Now, Mr Wagner, what sort of production records do you keep in your plant? A Mr George DeMarco keeps [5] practically all those records

Q Well, do you know anything about those records?

A I don't pay too much attention to them

Q Could you explain the basic process that you use in the manufacture of pearlized acrylic sheeting? A I don't handle any of the production Mr George DeMarco does most of that

Q You don't know anything about production? A I know a little bit about it but I don't bother with it, to be frank with you, because I have other things that keep me quite busy and I just don't interest myself in it

Q Do you spend your time primarily in the business end of things? A That's right - selling, taking care of customers, the office, and such

Q Now, do you do business with Jewel Plastic on Canal Street in New York A That's right

Q How long have you done business with them? A Oh about four years

Q Do you buy any scrap from them? A Yes

Q Do you do business with K & S Plastics A Very little

Q At Cooper Square A Very little

Q Do you buy scrap from them A No

Q Do you do business with Rialto? A I did at one time; not lately

[6] Q Do you buy scrap from them A Yes

Q What do you do with the scrap that you buy from these people, Mr Wagner A We buy for another concern, for the Monoplast Chemical Corporation

Q What do they do with the scrap? A Reconvert it back in a methyl liquid

Q Liquid A That's right

Q Now, were you making pearlized methacrylate plastic sheeting on February 9, 1954 A 1954 What kind of sheeting did you say methacrylic

Q Pearlized methacrylate sheeting A 1954, yes.

Q Were you making pearlized methacrylate sheeting on March 18, 1954? A Yes.

Q Are you making it today A Yes

Q Now, what is the primary use that your customers make of the pearlized methacrylate sheeting which you manufacture and sell? A Well, that is very difficult to tell, what the primary use is

Q Well, what are the uses? I won't ask you about what the

primary use is A They make belts, buckles, pearl handles, compacts, et cetera

MR LAWRENCE Thank you, Mr Wagner

MR KENYON Are you finished completely with the witness?

MR LAWRENCE With Mr Wagner, yes

MR KENYON We have no questions

[7] G E O R G E D e M A R C O , called as a witness in behalf of the Plaintiff being duly sworn, testified as follows

DIRECT EXAMINATION BY MR LAWRENCE

Q Where do you live, Mr DeMarco? A 272 Castle Terrace, Lyndhurst, New Jersey

Q Are you employed by the defendant? A Yes

Q In what capacity are you employed? A Production manager

Q Now I show you Exhibits P-1 and 2 - A That is ours (indicating Exhibit P-2) and that is theirs (indicating Exhibit P-1)

Q You recognize P 2 as your product? A B it says here, B is our product, A is theirs

Q How do you recognize it, Exhibit P-2, as your product? A It is A and B

Q How do you recognize it? A Ours is a closer knit material where there is more of a flow, that is how I tell them apart It is a different color, but that isn't always the case

Q Now, what sort of production records do you keep in your plant, Mr DeMarco? A I keep records of what we make every day, what goes into it, and the amount of spoilage

Q Do you have any particular nomenclature for the [8] forms? A I mark them with that; in other words, if it is a

pearl I mark down the caliper and the pearl

Q I am speaking of a form a record of it, a particular record How do you keep the records? In a book? A I keep it in a book; I mark the date and the production for the day and I have continued it that way

Q What do you call that, your Production Book? A That is it

Q Now, in the process that you operate down there would you consider that a single operation or is it departmentalized? A Well it is a single operation It is only departmentalized in the case where we make rods that is more machining then chemical work

Q Now what products do you make down there? A Pearl sheeting, clear sheeting, a colored sheeting rods, that s about it

Q What are rods? A Dowels, round rods, made out of the acrylic material

Q You use them to put together the sheeting? A No the rods are sold as rods as round dowels

Q Now how long have you been employed by the defendant Mr DeMarco? A About four years, just about four years

Q Do you know Mr Brass A Yes

Q Were you ever connected in any fashion with the [9] company Mr Brass was connected with A That s right

Q What company was that A U S Chemical, and they changed their name and I don t know which is which It was U S Chemical at the time, now it is U S Plastics

MR KENYON When you worked for them it was U S Plastics

A When I worked for them it was U S Plastics

Q Who did you work for, U S Plastics? A Well, let s

see That was five years ago

Q How long did you work for them? A Two weeks

Q For U S Plastics Where did you work after your employment with U S Plastics was concluded? A For a while I was putting down linoleum and asphalt tile, I was in business with – I had a partner and we were putting down linoleum and asphalt tile, contracting jobs

Q For how long did you do that? A About a year

Q What did you do after that? A Went to work for a plastic glass sales in New York Leo Wagner

Q Now, in your plant do you make up the mixture that goes into the monomer? A There is a man that does that

Q You supervise the mixing? A Yes

Q Who determines the quantity? A I do

Q The mix that goes into the monomer? A I do

Q Do you weigh that all out? A Yes

Q What is the name of the man that does the mixing?

[10] A Daniel DiCaterino

Q How long has he been in the employ of the defendant?

A A little over two years

Q Do you happen to know where he was employed before he came to work for you people? A He was also self employed doing linoleum and asphalt tiling work

Q What kind of a mold do you use in your process?

A Tempered glass

Q Tempered glass mold? A Yes

Q How do you get the mix monomer into the glass mold?

A It is poured by hand from a pail into an opening at the end or at the side of the mold In other words, the mold is assembled,

open on one side, and the mixture is poured in

Q What does that mold look like? A It looks like, assuming this were glass, it looks like this with a vinyl gasket holding it apart, and the clamps are holding the entire thing together

Q What kind of clamps are they? A I use brass clamps because if it goes in a water bath it doesn't rust

Q Brass A It is a 1 inch C clamp

Q Are they C clamps? A That's right, a 1 inch C clamp.

Q What do you do with your mold after the monomer mix has been poured into it? A The mold is sealed and calibrated

[11] Q How do you seal the mold? A We put the vinyl gasket at the opening, push it inside, the edge of the seal, and calibrate it by using a spacer and squeezing down the clamps until it is one size around the sheet. Of course if the proper weight is put in it is one sized throughout the sheet, not only on the edges Then that is loaded on a truck with eleven other sheets; when the truck is fully loaded it is lowered into a water bath

Q What is the temperature of the water bath? A 124 degrees Fahrenheit

Q Approximately how long do you keep the molds in the water bath? A Overnight

Q How big are your tanks down there? A Five foot high, four foot wide and eighteen foot long

Q Will you give me that again? A Five foot high, four foot wide, eighteen foot long .It is divided into three compartments, six foot long each compartment

Q Now, what is the purpose of putting the filled molds into the water bath while you do that? A To polymerize the sheet

Q Now, how do you put these molds in the water tanks?
A They are loaded onto a truck, which resembles an inverted deck, and they load it on this truck, twelve of them, they are tied, and it is raised with a hoist and put into the water bath The hoist is on a trolley and runs on an I-beam
[12] Q Now, how are the glass molds positioned in the water bath? A Slightly off perpendicular; they are leaning in toward the center of the truck
Q Approximately how much? A To a degree
Q What degree? A I don t know the degree; just so they don t fall
Q How long do you leave them in the water bath?
A Overnight
Q Is that the usual procedure that you follow, you load the molds in the daytime and leave them in the bath overnight?
A That s right
Q So that you have one cycle a day? A One cycle a day
Q Now, what goes into take for example — A A sheet like that
Q — Exhibit P 2 A Yes
Q Tell me what goes into the mix that goes into the monomer
A Assuming it is about a 500-pound batch, I would put 7-1/2 pounds of pearl, 2-1/2 pounds of benzyl of peroxide and 1-2/3 quarts of aerosol mixture
Q Now, that s all that goes into the mix? A That s all That s all I use, unless it is a color We are talking about white
Q How does the pattern form in it? A When there is a sheet, such as Exhibit 2, polymerizes in the water [13] bath after

the batch is made; by that I mean after it is a syrup from a monomer and these different items are added I withdraw it from the syrup kettle into a vacuum kettle, and from the vacuum kettle I take out the desired weight depending upon the calibre of the sheet, and I add about 40 grams of plastic sawdust to this pail of syrup That is agitated for approximately two minutes

Q In the pail A In the pail on a small agitator It is about three-quarters horsepower motor and a three-inch propeller, stainless steel propeller, and it has about 1750 rpm s That is agitated for two minutes, then it is poured from there into the cell

Q What is this plastic sawdust made of? A It is a sheet of plastic that is cut on a saw and I accumulate the sawdust, and that is what I use

Q Do you use that for all of the pearlized sheeting?

A Yes, all of my designed pearl is made like that

Q Is all the sawdust from the same saw? A Sawdust from our saw; plastic sawdust

Q Now, what is the viscosity of the monomer when you mix the plastic sawdust? A Well, by the time we are ready to do it it is finished and cooled and it is a Z viscosity on a Gardner Hoi tube

Q Is that standard procedure in your plant, or do [14] you vary the viscosity? A It may vary very little, but we try to keep it around a Z

Q So you standardize on that viscosity? A On this pearl sheeting here, that is what we are talking about, this right here?

Q Yes A Yes

Q What other types of pearlized acrylic sheeting do you make other than that Exhibit P-2? A There is a small pearl which

has no sawdust added to it, therefore it is taken right from the kettle and put into a pail and no further mixing operation is necessary, and it is poured right from the tank into the cell and that gives you a smooth pearl sheet, which is used for eye-glass frames and also compacts.

Q Now, just so I understand this properly, Mr DeMarco. You draw your monomer from what you call a syrup kettle? I don't know very much about this A Yes, we call it a syrup kettle; it is a stainless steel jacketed kettle.

Q Therewith you melt your monomer? A That is where we make the syrup.

Q You draw a certain amount of that monomer—. A All of it.

Q All of it? A Into a vacuum kettle. It is a sealed stainless steel kettle which pulls out all the bubbles and gasses. From the vacuum kettle we take it out and make [15] it into either this sheet or plain pearl; or clear, for that matter.

Q I understand you draw from the vacuum kettle, then, into a pail, is that correct? A Yes, when I make this

Q Then you put your mix into it and what you referred to as plastic sawdust? A Yes

Q It is agitated in the pail? A For two minutes.

Q And then a workman pours it into the—. A Pours it into the open cell.

Q The glass mold? A Yes, that's right.

Q Now, how many molds do you use during the cycle of manufacturing acrylic sheeting? A Only this you are talking about here, because we make things other than just this

Q I am not talking about that particular type, I am talking

about pearlized acrylic sheeting. this type of pearlized -- I don t mean that particular type, I mean various colors and so forth A I see.

MR KENYON Just a moment I don t want to interrupt your interrogation; of course I would interpose an objection if we get into the subject matter more appropriate for an accounting. I assume you are going no further with this line of questioning than to show what the use of the process is, substantially, is

[16] that correct?

MR LAWRENCE That is what I am just trying to get an idea of approximately, I am not trying to go into the minute details, just get a general idea about how much of this you make.

MR KENYON We might say in round numbers would be a sufficient answer

A In round numbers, average, a week s production averages about 25 per day if it is -- I would say less, closer to 20

Q Mr DeMarco, this saw that you referred to from which you make the sawdust that you use in your process, what kind of a saw is that? A It is a circular saw, 10-inch blade, carbide tipped.

Q What do you cut on that saw? A That is used mostly for trimming of sheets, or cutting the heavy sheets in squares By that I mean cutting them into square rods

Q Now, is there any particular type of material that you use to make the sawdust that you use in -- A I try to use all the clear material; in fact I do use all the clear material

Q Now, could you give me a general idea of what the size of the particles of this sawdust might be? A It is tough to define because they are not the same, for one thing, and they are either

oblong or round or square At any rate, it is around 16th of an inch on the average.

[17] Q In-- A In any way you want to look around it

Q --diameter? A Diameter, height, width, length

Q Would there be any chips in that sawdust? A There may be an occasional chip if the saw were dull you might get that.

Q Now, I understood you to say that when you put these molds in the tank they lean up against the side of the tank is that correct? A No, they are leaning on the truck, they are leaning toward the center of the truck

Q You put the truck in the tank? A They are leaning like that (indicating)

Q Just off vertical

MR LAWRENCE That is all unless you have some questions

MR KENYON I have nothing

MR LAWRENCE Could I ask one more question?

Q About what percentage of your total business is this pearlized acrylic sheeting? A Well, I guess about --

Q Just a round percentage

MR KENYON Percentage

A I will give you round figures It is about 30 per cent

* * *

FINDINGS OF FACT

1. Plaintiff, U S Chemical Corporation, a corporation incorporated under the laws of the State of New Jersey, is assignee of U S Letters Patent No 2,668,328, application for which was filed April 8, 1953, issued to Frank E Porter on February 9, 1954 Plaintiff, U S Plastic Products Corporation, also a New Jersey corporation, is exclusive licensee.

2. Defendant, Plastic Glass Corporation, is a corporation incorporated under the laws of the State of New Jersey

3 Plaintiffs bring this action alleging infringement by defendant of claims 1, 3, and 4 of the patent, 35 U S C A §§ 271 and 281; 28 U S C A. § 1338(a) Defendant denies infringement counterclaims for declaratory judgment of invalidity under the Federal Declaratory Judgments Act (28 U S C A. § 2201), and counterclaims for an injunction and accounting on the basis of alleged unfair competition, 28 U S.C A § 1338(b)

4. The patent in suit is for the process of "Casting Patterned Plastic Sheets " The avowed object is to effect a "controlled orientation of pattern forming additivies of cast synthetic resin sheet " This, in more comprehensible terms, is plastic sheeting containing a simulated mother-of-pearl design The basic material used in this process is a syrup known as monomeric methyl methacrylate Added to this is a polymerizing catalyst, and a pattern forming material, usually guanine crystals prepared from fish scales, which gives the final product its iridescent appearance. This combination is heated until the desired viscosity is obtained Then discrete particles—i. e., particles that can act strictly on their own, each as an individual particle—of a selected mesh size and a desired quantity are added to the molding composition These are described in claim 1 as being

"discrete particles of solid material of such weight and bulk as to sink by gravity"; in claim 2 as "discrete solid substantially spherical particles of a composition to blend with liquid and of such weight and bulk as to sink by gravity"; and in claim 3 as "a plurality of transparent beads of a composition and to be at least partially melted at the temperature of the liquid material and of such weight and bulk as to sink by gravity " The principal type used and in contention is transparent beads of acrylic resin -- polymerized methyl methacrylate balls, having a low molecular weight and melting point and being compatible with the molding composition, in form of a solid material The mixture formed is agitated and then poured into sheet molds which are spaced to remove the excess air and adjusted to the desired thickness The mold is then turned on its end -- vertically -- and placed in a controlled temperature bath. The solid particles, being of greater density than the syrup, sink to the bottom by gravity The bath acts to polymerize the entire composition and is so controlled that the solid fragments will sink a substantial distance before the complete polymerization occurs As the bead sinks it carries with it a glob of viscous resin containing the pattern-forming material This action forms a distinctive pattern because of the orientation of the guanine crystals in the mass The product of the complete polymerization process is a plastic sheet containing a pearl design This process permits the production of various designs reproducible to the extent that there is sufficient similarity between sheets to allow economical manufacture of the end product desired.

5 The counterclaim asserts the usual grounds for invalidity, but because of the determination hereafter to be made it is necessary only to decide the issue of public use and sale of the patented process more than one year prior to April 8, 1953

6. Frank E. Porter, the patentee of the process, is a chemical engineer and has spent all of his career working in the plastics field. He has been working with methacrylate resins since 1936, spending a large part of his time experimenting with pearl design sheeting. He had several false starts and one particularly bad setback some time during the period 1947-1949 when he used wax as the design-producing medium and obtained a very nicely designed material. However, after sale and manufacture into handbags it was discovered that the plastic "blushed containing absolutely white streaks" from absorption of moisture from the air.

7. Porter entered the employ of U. S. Plastic Products Corporation in February, 1951, primarily to set up operations for the casting of clear and smooth pearl methyl methacrylate sheeting. U. S. Plastic Products Corporation at that time was producing a methyl methacrylate molding powder in the form of spheroidal beads with a low molecular weight and melting point for use in dental plates -- the very same material he has incorporated into his patent as the pattern-forming substance.

8. After a period of laboratory experiment, and on September 27, 1951, Porter produced a full size sheet of design pearl sheeting using substantially the same process described in the patent in suit. This sheet was delivered to Handbag Metal Specialties, Inc., a New York corporation, which made a test handbag for use in aging and control tests. What these tests consisted of is not apparent, but they seem to have been merely to let the handbag sit in one place to determine whether the design would fade out. There is some vague testimony that other sheets were similarly used and that is accepted as a fact.

9 Beginning in November, 1951 and thereafter, sales were made to Handbag Specialties - 24 sheets in November, 20 sheets in December, and in January, 1952, 89 sheets were sold to the same company In February, 1952, sale of the sheets was also made to two other manufacturers, Jewel Plastics Company and Rialto Button and Wood Products, the total number of sheets being 203 In March, 1952, sales were made to the same three customers of 240 sheets In April, up until and including April 7, 89 sheets were sold The price was computed not on the basis of a sheet as a unit, but on the basis of a pound as a unit, the price in all instances during this period except two being $2.00 per pound The aggregate invoice amount was $15,734 25

10 All of the evidence of experimental use comes from the oral testimony of the patentee, Frank E Porter, and Samuel Brass, president and sole stockholder of U S Chemical Corporation and president of U S Plastic Products Corporation (the latter s testimony contained in a deposition presented in evidence without objection) Porter testified as to a number of so-called "tests" carried out during the critical period The first test mentioned has been referred to in finding of fact number 8 The second was not a test of the process at all; it was simply a realization that a thicker sheet was necessary for the manufacture of ladies' handbags The other tests referred to -on January 25, 1952, March 28, 1952, May 12 1952 and June 5, 1952 - ostensibly were to determine whether a controllable process had been discovered so that it was now possible to produce the same design in varying thicknesses of plastic sheets This view that the primary motive was experimental, cannot be accepted At page 64 of the transcript Porter was asked by the plaintiff

> "Q Now, Mr Porter, these experimental runs that you are referring to in your notebook, were they experimental runs for the purpose of working out production controls

To which he answered

> "A These things were all done because they were requested by the customer Starting in this, we had no knowledge of how to do it and they were strictly experimental runs The procedure being to make a test sheet and then to make the experimental run following the test sheet if it looked as if it would be acceptable to the customer

The obvious and only inference is that a new design was desired and if a test sheet was approved by the customer, a sufficient quantity would be produced to satisfy his needs This conclusion is bolstered by the testimony of Porter elicited on cross-examination that any run of more than five sheets was production and not experiment

Also significant is the testimony of Brass that he, and it is assumed the trade in general, considered that a plastic which would stand up for five or six months was a satisfactory product; one that would be ready for commercial production and sale

11 From the beginning of November, 1941 to the critical date, there was no evidence of systematic practice to follow up the sales Only occasionally, when Brass happened to be in personal communication with a customer, did he inquire if the plastic sold was holding up satisfactorily. It is also significant to note that no records or evidence of continuing tests or experiments or their results were introduced in evidence

12 Plaintiffs rely on testimony of the patentee, Porter, that during the period in question scrap loss was "terrific" in that out of 11,000 pounds of design pearl sheeting, 3,000 pounds had to be scrapped because of defects This may indicate that some kinks existed in production controls, but does not tend to prove a primarily

experimental purpose Quite the contrary, the large volume turned out tends to indicate full scale production

13 Porter quite naturally, because of his previous failures, was apprehensive lest this process fail him and wished to be certain of the reproducibility of the pattern and the durability of the material After serious consideration we are constrained to conclude that between September and December 1951 plaintiffs were proceeding cautiously and with the primary purpose of experimenting, adopting a "wait and see" attitude However, somewhere about the beginning of the new year they were satisfied with their product and their process They then began production and sale, with primarily a profit purpose in mind—any experimentation was to affect production controls and was subordinate only

14 There is no doubt of the sale and use by the public of the product of the patented process during the critical period under discussion The plaintiffs have not established by full, unequivocal and convincing proof that the use and sale were primarily experimental, with only a subordinate commercial purpose

15 Testimony was introduced as to the secret use of the patented process during the period in question It is unnecessary to make any findings on this issue because of the conclusions reached hereinabove

16 It is apparent that if the process described was in public use then the process described in each of the claims contained in the patent was in public use

17 The allegations in the counterclaim alleging unfair competition are that the patent is a process patent and that the plaintiffs, knowing the scope of the patent, wilfully and maliciously intimidated and coerced customers and potential customers of defendant by

threats of legal action, by way of action for patent infringement, against said customers if they continued to purchase or use plastic sheeting made by defendant, such course of conduct being deliberately calculated to destroy defendant s competitive position in the field

18 The only testimony introduced relative to defendant s counterclaim alleging unfair competition was that of Brass It is patent from a perusal of this testimony that defendant (plaintiff on the counterclaim) has not proved its case

CONCLUSIONS OF LAW

1 This court has jurisdiction of this case and the parties

2 The parties here have tacitly assumed that the court has jurisdiction over the counterclaim for unfair competition by virtue of 28 U S C A s 1338(b) This question has not been so facilely determined We are, however, of the opinion that the parties assumption was correct and that the claim under the patent law is substantial and related to the claim of unfair competition Cutting Room Appliances Corp v Empire Cutting Machine Co , 186 F 2d 997, 88 USPQ 163 (2 Cir 1951); (although the Cutting Room case may be distinguished from the case at bar by the fact that we here have a process patent, the difference appears to be insubstantial See American Ball Co. v Federal Cartridge Corporation, 70 F 2d 579, 21 USPQ 296 (8 Cir 1934)) See, also Hurn v Oursler, 289 U S 238, 17 USPQ 195 (1933); Telechron, Inc v Parissi, 197 F 2d 757, 93 USPQ 492 (2 Cir 1952); Darsyn Laboratories v Lenox Laboratories, 120 F Supp 42, 101 USPQ 50 (D N J 1954), affirmed 217 F 2d 648, 104 USPQ 39 (3 Cir 1954), cert denied 349 U S. 921, 105 USPQ 517 (1955) Compare Celite Corporation v Dicalite Co 96 F 2d 242, 37 USPQ 383 (9 Cir 1938) cert

denied 305 U S 633, 39 USPQ 558 (1938)

3 The patent in suit, No 2,668,328, is invalid and void because of prior public use and sale 35 U S.C.A § 102(b).

Section 102 of Title 35 U S C A. provides

> "A person shall be entitled to a patent unless * * * (b) The invention was * * * in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or (c) he has abandoned the invention * * * "

The history of this provision of the statute has been thoroughly convassed Electric Battery Co v Shimadzu, 307 U S. 5, 41 USPQ 155 (1939); Metallizing Engineering Co v Kenyon Bearing & A P Co., 153 F 2d 516, 68 USPQ 54 (2 Cir 1946), cert denied 328 U.S 840, 69 USPQ 631 (1945), rehearing denied 328 U S 881 (1945) Suffice it here to say that its forefather is the first patent act

One may, for the purpose of testing his invention to prove its success, use the process or machine which is the subject of that invention and sell the product of its operation Electric Battery Co v. Shimadzu, supra, at p 20, 41 USPQ at 161; Elizabeth v. Pavement Co , 97 U S 126 (1877); Penn Electrical & Mfg Co v Conroy, 159 F. 943 (3 Cir 1908) But if the use is primarily for the purpose of profit, with the experimentation being only incidental, for a period more than one year prior to the application for a patent, it comes within the prohibition of the statute. Smith and Griggs Manufacturing Co. v. Sprague, 123 U S. 249 (1887); Wendell v American Laundry Machinery Co. 248 F 698 (3 Cir 1918)

Plaintiffs contend that even though there was a commercial use of the process the prohibition of the statute is not violated if the process was kept secret and if the public were unable to determine the process from the product which was being sold on the open market

Feb. 9, 1954 F. E. PORTER 2,668,328

METHOD OF CASTING PATTERNED PLASTIC SHEETS

Filed April 8, 1953

Fig. 1.

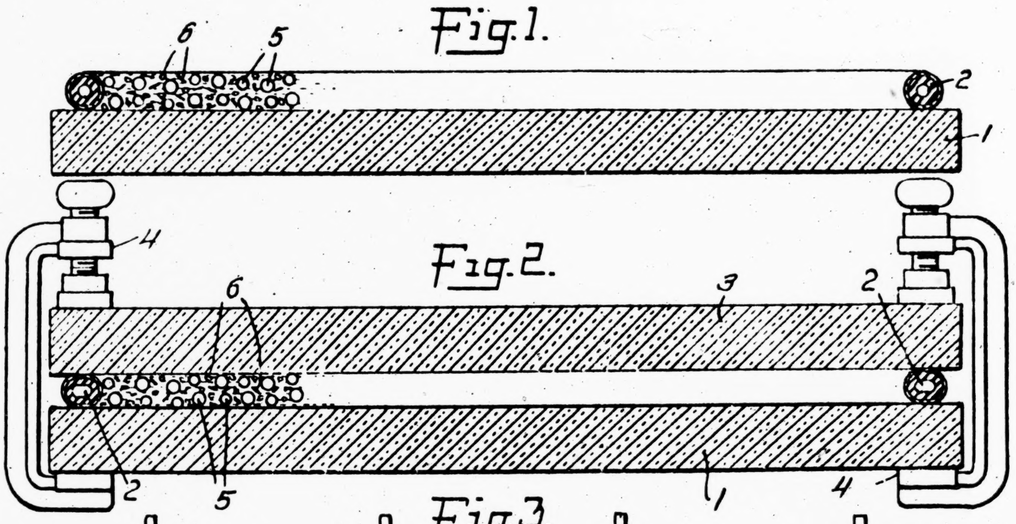
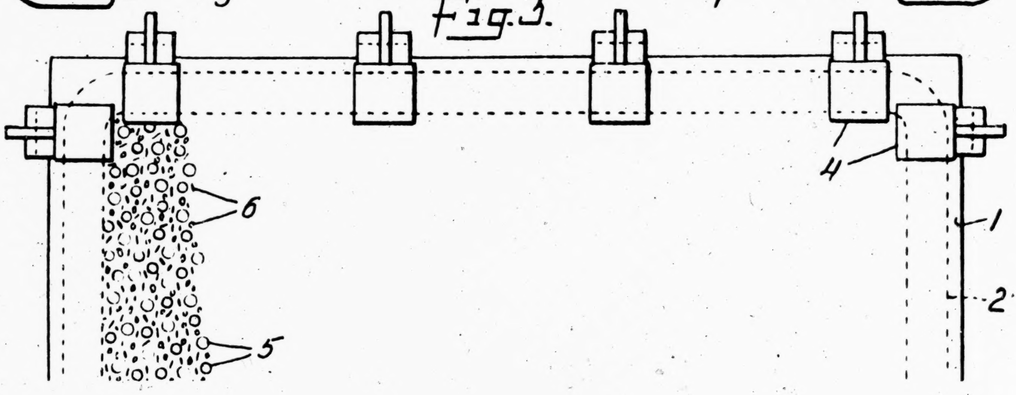


Fig. 2.

Fig. 3.



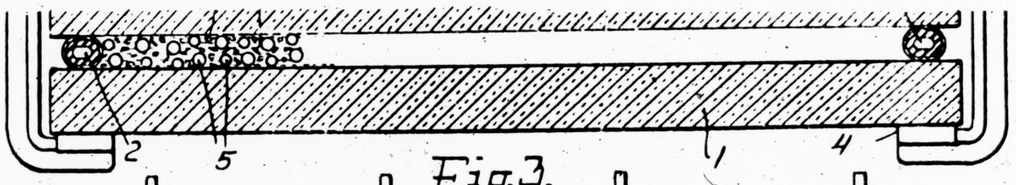
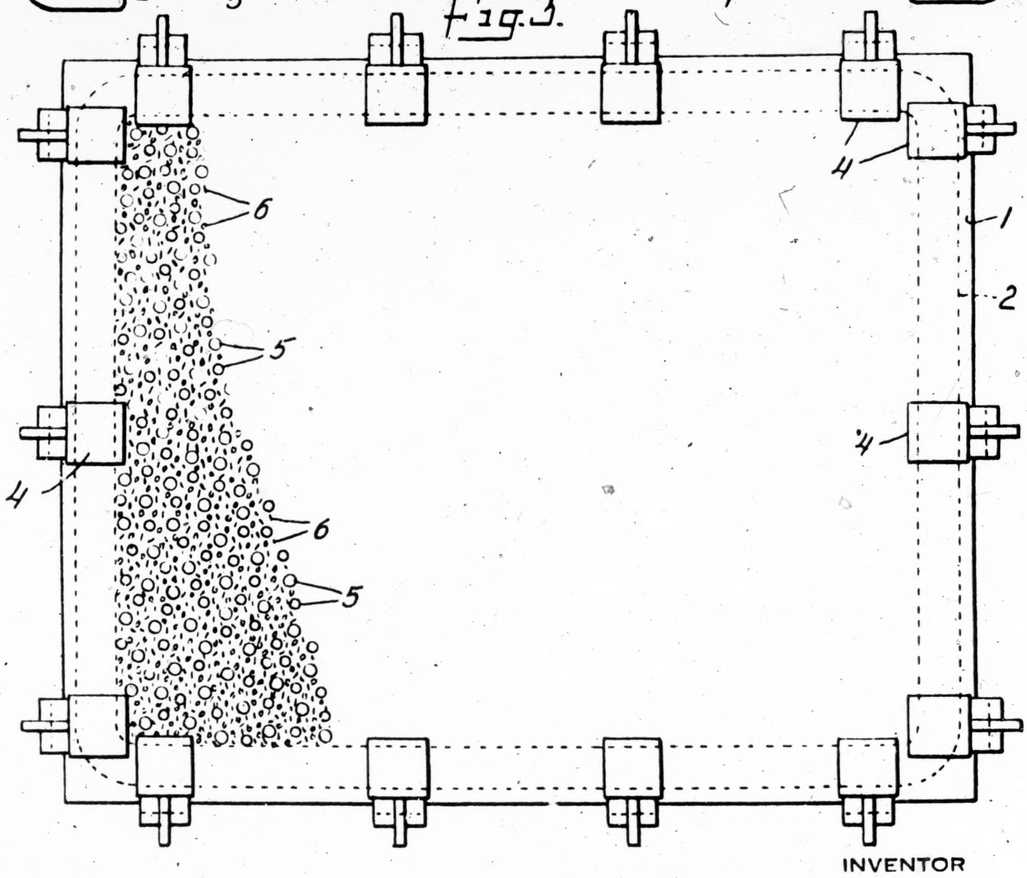


Fig. 3.



INVENTOR
Frank E. Porter
BY
Pennie, Edmonds, Morton, Barrows and Taylor
ATTORNEYS

They urge that the law in this circuit is as stated in the case of Peerless Roll Leaf Co v H Griffin & Sons Co , 29 F 2d 646 (2 Cir 1928), and not that enunciated by Judge Learned Hand in Metallizing Engineering Co v Kenyon Bearing v. A P. Co , 153 F 2d 516, 68 USPQ 54 (2 Cir 1946), which expressly overruled the Peerless Roll case It is sufficient to say here that this court agrees with the opinion of Judge Hand in the Kenyon case; to attempt to add anything to his remarks would be a useless endeavor See, also, Huszar v Cincinnati Chemical Works, Inc 172 F 2d 6, 80 USPQ 466 (6 Cir 1949)

4. Defendant s counterclaim for a declaration of invalidity is granted as to all of the claims contained in the patent

5 Defendant s counterclaim for unfair competition is dismissed

6 Plaintiff s action is dismissed with costs

Let an order be submitted

JUDGMENT

This action having come on to be heard, and after a full trial and hearing of all of the issues, and upon consideration thereof, and upon Findings of Fact and Conclusions of Law filed June 20, 1956, it is

ORDERED, ADJUDGED and DECREED that

1. Each and every claim of United States Letters Patent No 2,668,328 is invalid and void;

2. Plaintiffs' action is dismissed;

3. Defendant shall recover from plaintiffs its costs in this action, to be taxed by the Clerk of this Court amd made part of this Judgment;

4. Defendant's counterclaim for unfair competition is dismissed.

United States District Judge

Dated: July 2, 1956

Approved as to form:

/s/ Stanton T. Lawrence
Attorney for Plaintiffs.

NOTICE OF APPEAL

Notice is hereby given that plaintiffs U S CHEMICAL CORPORATION and U S PLASTIC PRODUCTS CORPORATION, hereby appeal to the Court of Appeals for the Third Circuit from paragraphs 1, 2 and 3 of the final judgment entered in this action on July 2, 1956

Dated July 11, 1956

/s/ Stanton T Lawrence, Jr
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Patented Feb. 9, 1954

2,668,328

UNITED STATES PATENT OFFICE

2,668,328

METHOD OF CASTING PATTERNED PLASTIC SHEETS

Frank E. Porter, Denville, N. J., assignor to U. S. Chemical Corporation, Metuchen, N. J., a corporation of New Jersey

Application April 8, 1953, Serial No. 347,555

5 Claims. (Cl. 18—58)

1

This invention relates to preparation of cast synthetic resins and, more specifically to the preparation of such resins in the form of sheets containing pattern forming additives, and the primary object of the present invention is to provide a process of effecting a controlled orientation of pattern forming additives of cast synthetic resin sheet.

According to this invention the pattern forming material, such as pearl essence from fish scales, metal bronze powders, pigments of various kinds, and dyes, both as liquid and powders, is added directly to a polymerizable liquid organic compound such as methyl methacrylate monomer in such manner that the cast sheet presents a beautiful pattern formed by the additives, which pattern may be readily altered and controlled by simple variations in certain steps of the operation all as will hereinafter be more fully described.

The principal novel step in the process is the incorporation in the mixture of the synthetic resin to be cast and the pattern forming additives, of amounts of resin in the form of solid spheres or beads of selected mesh size which, in the process of casting, move in the heated mixture until the increasing viscosity of the plastic as it "sets" prevents further movement of the beads. In this movement, which may, in the molding of sheets for example, be accomplished by turning the mold to a vertical plane, each bead carries with it a glob of viscous resin containing the pattern forming additive which in turn carries with it to a greater or less extent the contiguous resin, producing a controlled directional distribution of the additive, which in the final product forms a distinctive and reproducible pattern which may be modified by changes in the quantity and size of the added beads; in the viscosity of the resin to be cast; in the kind and quantity of the additives and otherwise.

The process may be carried out with the apparatus commonly used for the manufacture of plastic sheets and forms, and in the accompanying drawings I have shown a typical mold used for molding sheets of acrylic resins.

In the said drawings:

Fig. 1 shows in section the open mold immediately after it is filled with plastic material;

Fig. 2 is a sectional view of the enclosed mold; and

Fig. 3 is a side elevation of the mold positioned for the setting of the plastic and showing the distribution of the ingredients of the plastic at the beginning of the setting period.

2

Referring to the drawings, 1 and 3 are glass plates between which the plastic sheet is formed. The sheets are spaced apart by a compressible gasket 2 in the form of a continuous ring of a shape and size corresponding with the plates 1 and 3. The gasket 2 is placed at the edge of one plate as shown in Fig. 1 and the required amount of the heated plastic poured on the plate. The second plate is placed on top of the gasket and the clamps 4 applied over the edges of the assembled plates and gasket and screwed down, care being taken to maintain the plates parallel so that the molded sheet will be of uniform thickness throughout. After filling the mold, it is placed in a controlled temperature bath for polymerization.

The following are examples of the procedure followed in the commercial manufacture of sheets in accordance with this invention using the above-described apparatus.

Example No. 1

Monomeric methyl methacrylate containing 0.025% acetyl peroxide as a polymerizing catalyst and the reflective sheen material is heated at 87° C. until it is a syrup with viscosity of "*u*," "*v*," "*w*," Gardner-Holdt viscosimeter comparison control, at room temperature. One of the formulas commonly used for this syrup is the following:

	Parts
Methyl methacrylate monomer	4490
Pearl essence	50
Acetyl peroxide (dimethyl phthylate) catalyst	1.14

From the above syrup at room temperature a precalculated amount is removed to produce a sheet .150" in thickness. To this syrup transparent beads of acrylic resin of the desired dimensions are added. The quantity of beads in proportion to the amount of syrup and thickness of the sheet to be cast modifies the pattern in the resulting sheet. Beads in the order of 5 grams per pound of methyl methacrylate of approximately 20 mesh size will produce a pleasing mother-of-pearl pattern. After the beads are added, the vessel containing the syrup is subjected to mechanical agitation for one (1) minute. The syrup, with the added beads, is then poured into a casting cell such as above described. The cell is placed directly after closing into a controlled temperature bath for polymerization in a vertical position.

In the drawings, the beads are indicated at 5 and the sheen material at 6, the showing being, of course, diagrammatic.

At the start of the polymerization immediately after the mold is placed in vertical position, the beads and sheen material are uniformly distributed throughout the resin and the sheet; as shown at the left in Fig. 3 presents no "pattern." When the mold is set on edge, the beads begin to move through the action of the gravity and the sheen material is redistributed in the manner above described.

The finished sheet contains a "mother-of-pearl" pattern which, while not made up of like areas of geometrically identical design, is of a generally similar appearance throughout the sheet and reproducible from sheet to sheet to such an extent that if a number of sheets be cut into small pieces of identical size, it would be impossible to tell from the appearance of the pieces which sheets they came from.

Example No. 2

The procedure followed is the same as in Example No. 1 except that viscosity of syrup is increased to "2+1," Gardner-Holdt viscosimeter tube control. The pattern in the resultant sheet is of smaller design, with individual figures approximately ¾ to 1" in size over the entire area.

The control of the design in the finished sheet as to size and intensity of striation, is a function of the pouring viscosity of base synthetic resin liquid and the temperature of the polymerization unit. The viscosity of the casting base is adjusted to ball size to control reproducible pattern. For light caliper sheeting, a spheroid ball of 10 to 30 mesh is added to the base liquid with a Gardner-Holdt controlled viscosity of "*u*," "*v*," "*w*" cold. For calipers from 250/ to 500/ inclusive a viscosity of "*z*+1" "*z*+2," Gardner-Holdt is used with balls of 10 to 40 mesh size. The sheets are cast in a waterbath in a vertical position and the design is created by the shifting or falling movement of the spheroid polymer through the base synthetic resin liquid containing the material producing the reflective sheen. This shift caused by the falling spheres creates a new stage of orientation in the reflective sheen material thereby creating the design. The shape and size of the design is a direct function of the viscosity of the base synthetic resin liquid and the size of the beads. For small design the viscosity is increased to reduce falling inertia of balls and for large design, the viscosity is reduced to increase falling speed of spheres. The patterns are directly reproducible in area as long as the same size spheroid synthetic resin bead is used. The pattern is throughout the entire thickness of the sheet and is not limited to one side. No further processing of cast sheeting is required after material is loaded to casting cells, designing then becomes a routine and not a manual function of the procedure.

In the foregoing examples I have described the procedure followed in making sheets having patterns formed of pearl essence added to the transparent resin. The patterns formed are generally similar in appearance to so-called mother-of-pearl with the sheen material apparently somewhat more concentrated in limited areas dispersed throughout the area of the sheet, the limited areas being in the form of irregular paths extending generally in the same direction, which direction was downward during the period that the material was setting in the molding cell. The length and width of these areas varies with the viscosity of the resin when placed in the cell and the size of the added beads.

Mother-of-pearl patterns may be formed in sheets of any color by adding to the resin a dye in liquid form which gives a color to the sheet without rendering it opaque. In the finished sheet the dye appears to have a greater concentration in the limited areas where the sheen material appears to be more concentrated, but this may be due to the greater opacity of the sheet in these areas. Instead of using sheen material for forming the patterns, metallic powders in the form used for making paints, such as bronze powder or aluminum powder, may be employed. These powders are apparently re-oriented in the mass by the downward movement of the beads in the same manner as the pearl essence. Pigments other than metallic powders may also be employed and also liquid dyes may be employed without sheen material.

The beads should preferably be formed of resin of the same composition as the sheet material, so that the beads, to the extent that they are melted during the setting of the resin, will blend with and form part of the sheet.

When the pearl essence or other reflective sheen material is added to the semi-liquid resin before casting without the addition of the beads, it is impossible to effect a distribution of the material throughout the resin in such manner as to produce a controlled and reproducible pattern no matter how carefully the agitation of the mixture of semi-liquid plastic and the reflective sheen material is controlled, and no matter how exactly such agitation is reproduced the distribution of the sheen material will not be reproduced and the resulting pattern is entirely unpredictable. Apparently the beads in some manner control the distribution of the sheen material, and if beads in the same number and size be added to the same liquid plastic and the viscosity of the plastic and other conditions of the casting process be carefully reproduced, the resulting pattern will be substantially the same in the separately cast sheets. Also, as pointed out above, the resulting pattern may be controlled by varying the size and number of the beads and the viscosity of the semi-liquid plastic at the time the beads are added to the plastic and the mixture agitated as described.

In the foregoing specification I have described in detail my improved process as carried out in the commercial manufacture of sheets of the character described, but it is to be understood that my invention is not limited to the details of the procedure herein described, but the same may be varied within the scope of the appended claims.

I claim:

1. The method of making molded articles which consists in adding to a molding composition while in a liquid state a quantity of pattern-forming material, also adding to said liquid composition discrete particles of solid material of such weight and bulk as to sink by gravity in such molding composition, placing the mixture in a mold, placing the mold in a position for such particles to move downwardly, subjecting the mold to conditions to cause the composition to solidify, and controlling the solidification of the composition so that it is not solidified until after the discrete particles have sunk a substantial distance in the composition.

2. The method of making molded articles which consists in adding to a molding composition while in a liquid state a quantity of pattern-forming material in comminuted form, also add-

ing to said liquid material discrete solid substantially spherical particles of a composition to blend with liquid and of such weight and bulk as to sink by gravity in such molding composition, placing the mold in position for such particles to move downwardly, subjecting the mold to conditions to cause the composition to solidify, and controlling the solidification of the composition so that it is not solidified until after the particles have sunk a substantial distance in the composition.

3. The method of making molded sheets which consists in adding to the molding material while in a liquid condition a quantity of pattern-forming material of comminuted form, also adding to said liquid material a plurality of transparent beads of a composition and to be at least partially melted at the temperature of the liquid material and of such weight and bulk as to sink by gravity in said molding composition, placing the mixture in a mold, positioning the mold in

a vertical plane, subjecting the mold to conditions to cause the composition to solidify, and controlling the solidification of the liquid composition so that it is not solidified until after the beads have sunk a substantial distance in the composition.

4. The process of claim 1 wherein the molded articles are sheets and the mold is set on edge while the composition is solidifying.

5. The method of claim 2 wherein the molded articles are sheets and the molds are set on edge during the setting period.

FRANK E. PORTER.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,168,331	Fields	Aug. 8, 1939
2,265,226	Clewell	Dec. 9, 1941
2,480,750	Leary	Aug. 30, 1949